Electric Railway Journal

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REDUCING THE TRANSFERS

It has been well said that the steam railroads have an advantage over the urban electric railways in the ease with which they can raise fares. The electric roads not only have to make a jump of 20 per cent from 5 cents to 6 cents, but they have to substitute an inconvenient fare for one which is not only convenient but has been in use so long that everyone has become accustomed to it. To avoid this objection the zone system and a charge of 1 cent for transfers have been suggested, but each plan has certain disadvantages. Still another plan is to reduce the number of places at which transfers are permitted. It is a fact which can be verified from the schedules of almost any large company that under the existing transfer system many rides are possible at an absurdly low charge per mile. We admit that any individual case is apt to be complicated by the existence of through routes, requirements in the way of service on connecting lines, etc. Nevertheless we believe that it would not be difficult to devise a transfer system which would grant the privilege to the short rider only on the through route, and to decline it to the long distance passenger, if such a plan was legally permitted. Most roads in the past have been so over-generous with transfers that we believe the commissions might look with favor upon this method of increasing fares, should a definite plan be devised which would be practicable for each particular case.

PROHIBITION AND THE CITY RAILWAYS

Iowa went "dry" last year—long enough ago so that the residents of this wealthy farming state may begin to determine the results. It seems a rather remote step from prohibition to the street railways, yet they appear to be sharing in the net returns. In Des Moines, for instance, there has been a noticeable increase in the amount of evening traffic on the city cars. This is attributed to the effect of the law, and incidentally indicates that the moving picture theaters are conducive to greater transportation earnings than the saloons. Many men who formerly stopped at the corner bar on their way home from work and spent a dime or 20 cents are now going directly home and then coming back downtown after supper and bringing their wives and perhaps their children to see a picture show. Where the street car company formerly received a nickel from them to carry them home, it now earns an additional 20 or 30 cents. Human beings will have amusement, and if the bottle variety is lost to common usage, the movie is often the more wholesome entertainment to which they will turn, and the railways profit by the change for the better.

THE MILWAUKEE'S LENGTHENED ENGINE DIVISIONS

In our first issue of the current year mention was made of the promising outlook for new steam-railroad electrifications, and the first of the projects which were germinating during the past year has already taken definite form. This is the plan for extension of electric operation on the Chicago, Milwaukee & St. Paul Railway to the west of the present electric zone. According to the report, which is outlined on another page of this issue, the 220 miles of electrified track included in the immediate program will extend over the two engine divisions east of Seattle, leaving a gap of about an equal distance between the new zone and the Western terminus of the existing one. The primary object, obviously, is the provision of electric power over the Cascade mountains, leaving the comparatively level line across the fertile plain of Eastern Washington to be served by steam. In the latter region, of course, the need for the economies of the electric locomotive is less emphasized, but that the gap will be closed within a relatively short time goes almost without saying. What the Milwaukee road has done is the demonstration, on a gigantic scale, of the savings to be effected by long-distance operation of electric locomotives, and the results, while not available in actual figures, have been shown to be successful by the mere fact of the present plan for an extension of the system. During the past year of trial the economies have been obtained with electric locomotives running over engine divisions only twice as long as under steam operation, and the possibilities that will exist for cutting out terminal losses, when the whole 900 miles of line are electrified and permit still longer runs, are fairly staggering to the imagination.

PREPARING FOR LABOR CONFERENCES

On a certain electric railway the representatives of the employees' union conduct careful rehearsals before sitting down at a conference with company officials. One set of delegates takes the men's side; another set puts itself in the places of the company officials, and the pros and cons are debated with red-hot enthusiasm. This is a form of preparedness that might well be practised by railway officials as well. The energy and time expended by company representatives in considering the issues from every angle would be used to an exceedingly good end. The outlining of the company's side in debate would unquestionably tend toward a better understanding of its position in the subsequent negotiations, and the more that was done to secure the viewpoint of the employees the more likelihood there would be of a prompt and just settlement. In other words, we are inclined to think that a well-prepared and

able management could secure concessions from a well-prepared union delegation that could not be obtained by unprepared officials in dealing with an ill-informed group of employees. Of course, the well-prepared group will do its best for its cause, but the basis of negotiation is certainly improved with fuller knowledge gained from discussion and close application to the conditions of each problem.

A FUNDAMENTAL OF WOOD PRESERVATION

A note was sounded throughout all of the sessions of the Wood-Preservers' convention of last week to the effect that treatment of timber, to be successful, must be accompanied by proper handling of the wood before and after treatment. To the layman attending technical sessions of a highly-specialized industry the expression of such an elementary formula is interesting, but it is at the same time surprising enough to make a very definite impression. It appears that not even wood preservers have universally recognized the inability of any commercial process of preservative treatment to stop decay that has once gained a foothold. The application of preservatives merely establishes a protective covering around the outside of the stick, and if this covering is interrupted at any point or surrounds a decayed spot that may subsequently spread its infection from within, the treatment is merely a waste of money. In practical application this principle demands that timber, as soon as it is cut, must be stored in a clean, dry spot and must be piled so that air has free access to all sides of every piece. In fact, a stick of wood seems quite as subject to contagious disease as any mammal and must be protected from the attacks of germs with equal or even greater care. After treatment the same rule applies, and if the treated timber is sawed or bored and the untreated interior exposed, decay will follow just about as fast as if no preservative had been applied. This fundamental principle is, apparently, more often violated than any of the general rules in timber preservation, and from this cause, no doubt, come a majority of the apparently inexplicable cases where treated wood fails to last in service.

DEVELOPMENT OF TRAFFIC

There are two ways of increasing the net earnings of any company. One of these is to increase the gross receipts; the other is to decrease the operating expenses. Under present conditions, the former seems the more practicable, and it is the plan urged by four traffic managers who contribute to a symposium this week on the "Development of Traffic."

It is obvious that any electric railway devoted purely to passenger business, especially that traffic which comes from absolutely necessary riding, has a low service factor, and almost any way in which this factor can be increased means greater net receipts. The investment in track and for right-of-way, in the case of an interurban road, is a very large proportion of the total investment on every road, but if this property is idle, or practically idle, for from six to twelve hours during the twenty-four the railway is not making the most of its opportunities. This is the great argument in favor of greater traffic development, especially in the direction of less-than-carload freight, which can be hauled during those times when the power station and track would otherwise be practically unused.

The business is one which, of course, has its own characteristics. It must be developed along different lines than the haulage of passengers, and to secure the best results some additional investment is necessary in the way of equipment, and some more is desirable in the way of terminals and perhaps for sidings and cut-offs. But such investment is small compared with that in the entire plant, and by a judicious selection of the kind of freight to be solicited so that it will include that on which the highest rates are paid, most companies should be able to develop a satisfactory additional income. Just what to do and how to do it form the subject of the articles already mentioned, and we believe that the testimony there given as to results which have been secured on the four roads concerned should be of value to many companies.

STATE TAX FOR CITY-OWNED LINES

The California State Board of Equalization, as mentioned in a news note last week, has made a recommendation that has quite an important bearing upon the question of governmental fairness to privately-owned utilities in California. In short, the board urges the enactment of a law by which municipalities owning and operating public utilities shall be required to report to it and pay a tax on gross operating revenues similar to that imposed on privately-owned companies. This proposal has special application to the electric railway field on account of the municipal lines operated in San Francisco. It should be understood, of course, that the lack of such provision heretofore has not served to inflate the net profit of the municipal system, for although it pays no taxes it is required by charter provisions to take into account charges for taxes, city interdepartmental work and insurance, so as to make possible a comparison of its results with those of private operation. For example, the latest complete report of the municipal lines includes in income deductions an item of $86,029 for the State franchise tax of 5¼ per cent upon gross operating revenue. This tax has not been paid to the State, however, and this fact, in the opinion of the Board of Equalization, throws an unfair burden upon people in other parts of the State.

As we understand it, the authorities on taxation in California are now somewhat uncertain as to whether special legislation of this kind is necessary. The general tax law provides that all "properties" owned by the State, counties and municipalities are exempt from taxation, but five years ago an amendment was passed to the effect that all utilities of designated kinds are to be taxed by the State on the basis of gross operating revenue. In other words, municipally-owned utilities are not specifically exempted. It might, therefore, be legal simply to levy the State tax on the municipal utilities, but this might involve long litigation as to the intent of the lawmakers, which the direct passage

of a new bill would avoid. Certainly there is no sound reason why the municipally-owned utilities should not bear their just proportion of the State tax, and with the equity of taxing them irrefutable the law should be made specific to this effect.

ACCIDENT PREVENTION VIA THE GENERAL MOVIES

Moving pictures have played a most important part in many recent accident prevention campaigns exemplifying the value of the safety-first idea. Such displays have stimulated interest among street railway employees, their families and friends, and the good which ocular evidence of the penalties of carelessness has effected cannot be measured. The wisdom of prevention through every possible agency needs no demonstration, and it is such a wholesome thing that even the general moving-picture houses are willing to devote some of their "footage" to this good cause.

From the standpoint of the operating man, however, it is desirable that any demonstrations of the dangers of boarding cars when in motion, alighting while facing the wrong way, holding bundles improperly, failing to look out for cars and automobiles on either side of the street center line, etc., shall be not only technically correct from the railway aspect of the case, but that the maximum impression shall be made on the observer. In a photoplay display recently viewed which has the laudable object of warning the public against its own carelessness in street car use, the "play-up" of the accident in almost every case was so weak as to give the onlooker the impression that only trifling injuries result from carelessness or a criminal disregard of the rights of others on the street. The apparent victims in practically every instance appeared to suffer little more harm than black-and-blue spots and generally walked away from the scene with surprising alacrity.

No sensible operating man wishes to overdo the job in demonstrating the dangers of certain practices on the part of the public, but there is room for some useful co-operation between the "movie" director and the transportation man in properly staging such scenes. If a boarding accident is to be depicted, it is better to use a type of car permitting entrance while it is in motion than to attempt to illustrate the affair by a piece of rolling stock which has been specially designed to prevent precisely this kind of accident, and which, in fact, makes boarding while the doors and steps are closed almost an impossibility. Then, too, the resources of the camera man in adjusting the speed of cranking the film to the requirements of the particular illusion sought should enable more realistic speed and tumbling effects to be attained in the illustration of some kinds of accidents, notably those resulting from the failure to look for the oncoming car or motor-vehicle in the opposite direction to that previously taken, and this without exposing the actors to increased personal risk. And finally, when the accident is depicted, would it not add much to the value of the film to include one or two hospital and convalescence scenes to clinch the impression of the price paid for carelessness?

In the industrial field, moving pictures of accidents often go so far as to show the permanent injuries received through heedlessness and perhaps hint at lifelong disabilities and hindrances. Certainly the general public needs to be fully warned of the perils of a carelessness which no railway company can control outside its own ranks and which adds so much yearly to the burdens of operating men from the humblest switchman to the highest executive. Thus far, the connection between the electric railway industry and the moving-picture world has been of a pioneer character, but the future is likely to witness a closer relationship as the demand for industrial and pseudo-scientific backgrounds for scenarios increases and as railway managers realize the immense power for suggestion resident in the modern film.

ANOTHER ADVANCE MADE

Gradually the New York courts are interpreting the public service law and in so doing are confirming the title of the commissions to wide discretionary powers in increasing as well as decreasing utility rates, even when such increases are counter to existing statutes or municipal agreements. Some time ago, it will be recalled, the New York Court of Appeals declared in the Ulster & Delaware case that the Second District Commission had power to raise the mileage book rate from 2 cents per mile which had been deemed sacrosanct.

Now, under a decision by the Appellate Division of the Supreme Court, the same commission has been told that it should not be estopped by local franchise provisions from fixing reasonable rates. In 1915, as explained elsewhere, the commission denied the petition of the New York & North Shore Traction Company for a fare of 15 cents, on the ground that the municipal consent for construction stipulated a 10-cent fare and no increase could be made without the consent of the local authorities. This, the court now holds, is not true. Although the constitutional provision in New York requiring municipal consent for franchises is a restriction upon the Legislature, the constitutional clauses regarding legislative power over rates and the delegated commission power over rates form a restriction upon local authorities in regard to attaching conditions to fix the rates. Thus, although in practice a fare might be agreed upon by utility and municipality in instituting service, the public service commission law provides for the later adjustment of such fare up or down as reason and justice demand. This is as it should be, for to determine fair rates is not the proper duty of either party directly concerned but of the impartial body to which the Legislature has delegated its power.

By a singular coincidence we are this week again calling attention to the remarkably well-equipped and conducted organization of the very commission concerned in these cases. This organization will undoubtedly be of great assistance to the commission in fulfilling its duty of complete regulation along the line now indicated by the court. Hereafter, we are sure, the commission will feel more self-assurance as to its power of determining all rate questions according to the merits of each particular case.

How a Commission Works

With a Description of the Divisions of Statistics and Accounts, Capitalization and Tariffs and of the Central Clerical Office, This Article Concludes the Story of the Public Service Commission for the Second District of New York

FOR the purpose of showing the extent to which the machinery of regulation has been thus far developed in this country, the ELECTRIC RAILWAY JOURNAL began in its issue of Dec. 30, 1915, a description of the organization, cost and work of the Public Service Commission for the Second District of New York. This first part, however, covered only those organization units consisting of the three leading groups—the commissioners themselves, their legal and confidential staff, and the administrative division—and the five groups that supervise grade crossings and separate classes of utilities, *viz.*, electric railways; light, heat and power companies; steam railroads, and telegraph and telephone companies. There are four other groups, which are in general concerned with all classes of utilities. These—the divisions of statistics and accounts, capitalization and tariffs, and the central clerical office—are described in this second and final part of the article.

DIVISION OF STATISTICS AND ACCOUNTS

The personnel, general duties and salaries of the officials in the division of statistics and accounts are as follows:

Title	Duties	Salary
	ADMINISTRATIVE GROUP	
Statistician in Charge:	General supervision, planning, correspondence and technical review	$5,000
Assistant Chief Statistician:	Assistance in supervision and in critical examinations devolving upon staff shown under second group	2,400
	CRITICAL EXAMINATION GROUP	
Telephone Accountant:	Examination of reports of telephone and other corporations	2,500
Junior Statistician:	Examination of reports and care of miscellaneous related routine, as well as tabulation work which ordinarily devolves upon the second group	1,800
Assistant Examiner:	Critical examination of reports and revision of forms	1,800
Junior Accountant:	Critical examination of reports	1,500
Bookkeeper:	Critical examination of reports and assistance on tabulations	1,500
	TABULATION GROUP	
Statistical Clerk and Assistant Examiner:	Tabulation of results of critical examinations and assistance in examination work	1,080
Clerk:	Examination of reports and related detail in connection with tabulations	1,080
Clerks (2):	Examination of reports and related detail in connection with tabulations	900
	CLERICAL ROUTINE GROUP	
Stenographer:	General supervision of clerical routine and other necessary details	1,800
Stenographers (2):	Stenographic routine, including typing of tables, etc.	1,200
Clerk:	Typewriting, operation of comptometer, copying, etc.	1,080
Clerk:	Filing correspondence and other clerical routine	900
Index and Filing Clerk:	Filing correspondence and other clerical routine	900

The foregoing groups represent reasonably distinct sections charged with the performance of the classes of work indicated. Changes in the assignment of employees, however, from one class of technical work to another is of almost daily occurrence, thus making possible the training of all-around men.

The division of statistics and accounts is charged with the examination of periodical (*i.e.*, annual and special) reports required from utilities. This work falls under the following natural heads: the formulation of classifications, accounting forms, interpretations and instructions to govern the preparation of corporation reports; the critical examination of such reports to see that the rules are followed; the tabulation work for commission statistical reports; the publication of these reports and the general furnishing of information, and clerical and business routine.

1. *Formulation of Classifications, Etc.:*

The scope of the work under this head can be judged by a glance at past developments. Since the formation of the commission the head of the division of statistics and accounts, acting in conjunction with the heads of other divisions, has prepared numerous regulations and forms that have been sent out to utilities and other interested parties. Among the pamphlets of instructions sent to corporations are those dealing with the uniform system of accounts for electrical, gas, telephone and electric railway corporations. Official classifications and forms covering electrical and gas corporations, natural gas corporations, telephone companies, telegraph and cable corporations, steam railroads and electric railways have also been sent out. Besides such general work the division stands ready at all times to interpret its rulings, etc., for individual companies.

2. *Critical Examination of Corporation Reports:*

The first point of interest in connection with critical examination work is, of course, the requirements of the commission in regard to the submission of reports by the utilities within its jurisdiction. The rules with respect to the time and the manner of sending in reports may be indicated simply as follows: Annual reports on prescribed forms from all corporations, and quarterly reports on prescribed forms from steam railroads. The quarterly reports are regarded as a supplementary requirement, each steam railroad being compelled to submit an annual report as well. For this reason, the examination of quarterly reports includes only certain elements of the examination of annual reports.

There are four well-marked steps involved in the examination of annual reports, the first two being of a rather preliminary nature. The first step involves a mechanical comparison of the basic figures of the report under examination with the totals of the preceding year's report. The second step consists in verifying additions, subtractions, multiplications, etc., in the new report, being thus a purely mathematical checking to determine accuracy. The first advanced step is a cross-check of analogous items in different financial statements to determine their correspondence. For instance, items on a balance sheet are checked with the totals of the several supporting schedules. As the examination progresses, corrections are made on a form designated

as "memorandum of errors," which contains captions facilitating the entry of facts "as reported" and as the examiner thinks they should be. This form is reproduced on page 198. The second and last advanced step is the critical examination itself, which may include a preliminary and a final review or only one examination. In either case the intention is to summarize the errors and discrepancies discovered and to prepare a report to the corporation at fault.

3. *Tabulation Work for Commission Statistical Reports:*

The third class of work covers the classification and tabulation of the results of the examinations in the form of an abstract, which is the basis of the commission's statistical reports. As in the examination of the reports, there are certain well defined steps to be followed. The first is the preparation of the original tabulation, which involves the drawing-off of figures from the annual reports of distinct classes of corporations upon improvised financial statements agreeing in classification with the forms used by such corporations. Unimportant financial data, of course, are not abstracted. The second step is the verification of the original tabulation by checking back the items to the reports to determine the correctness of the posting. The next two steps are the verification of all computations on the tabulation itself, and the comparison of analogous items in different tables to obtain a cross check. After these comes an important feature of the work, the preparation of notes to explain items on the abstract that are of doubtful meaning. The last step is that of typewriting and checking the tables. These steps are also followed in the abstracting of quarterly reports, but the process is abbreviated because of the limited scope of the examination.

"BEHIND THE SCENES"

An editorial under this title, published in the ELECTRIC RAILWAY JOURNAL of Dec. 30, urged utility operators to learn regulatory practices as well as theory. They should not, it was said, confine their attention to the words of the principals in the limelight, the commissioners, but should be acquainted with the diversified work behind the scenes. To this end an article was presented on the same date to show how the many assistants of the commissioners for the Second District of New York set the stage for the regulation of each class of utility. Now, in addition, this journal is taking its readers to the "property room," where the accumulated records and data of the commission are held ready for instant use. A remarkable system it all is—utility officials should not miss the opportunity to see it.

4. *Publication of Commission Statistical Reports and Furnishing of Information:*

The actual printing of commission statistical reports and all mechanical details relating thereto are referred to later under the central clerical division of the commission's organization. The work done under the division of statistics and accounts relates only to the final preparation of reports as a basis for printing. The furnishing of information by this division, however, consists of compiling statements in tabular or other form as a basis for submission to corporations or other parties, furnishing personal assistance to those who call at the office to inquire about the financial condition of corporations in which they may be interested, forwarding printed or manuscript material for information purposes to the public generally, and assisting the other divisions of the commission by making its information available to them.

5. *Clerical and Business Routine:*

The last section of the division's work concerns the clerical and business routine of its office. This, in general, falls in the following groups: Handling and filing correspondence other than reports; handling and filing report material; stenographic and typing routine involved in the preparation of reports, and correspondence.

DIVISION OF CAPITALIZATION

The division of capitalization is engaged almost exclusively in the examination of books, papers and records of companies asking for authority to issue securities. A utility presents to the commission an application stating in detail how the money is to be used, and from this application a preliminary analysis is made. If the matters involved are varied and complicated, the commission holds a preliminary hearing to learn fully what the directors of the utility propose to do. After this hearing, the case is referred to the division of capitalization for examination. Its investigation involves, when necessary, a thorough examination of the transactions of the corporation during the entire period of its existence. While this is going on, an inventory of all property is required from the utility, and the examiner analyzes this with the view of identifying the particular items of property which are shown on the books as having been acquired and included in the capital accounts. After the work of examining the records is finished, the inventory is turned over to an engineer in the proper division, who makes an appraisal and reports thereon. The results are all combined in a final report showing the actual condition of the corporation. This is submitted to the corporation, which then signifies its assent or makes its objections. If necessary, a hearing is held in the matter. If the securities are authorized, the division follows up the case so that it can tell at any time the amount of authorized securities sold and the application of the proceeds thereof to dates within six and three months respectively.

The leading employee in the division of capitalization is the chief ($4,000), under whom is the senior examiner ($2,500), one examiner ($2,250), one examiner and one examiner of accounts ($2,000), four examiners ($1,800), two assistant examiners of accounts ($1,500) and two assistant examiners ($1,080). Besides these, there are a junior accountant ($1,080), two stenographers ($1,200 and $1,080) and two copyists ($900 and $600). The chief analyzes petitions referred to the division, supervises and directs the examiners in the field, and prepares reports embracing the results of such examinations. The senior examiner, the examiner of accounts and five other examiners make detailed examinations of the books and accounts, verify liabilities by comparison with the original vouchers and documents, eliminate unnecessary items and redistribute the accounts as required by the official classifications. They also prepare correct financial and statistical statements, make detailed lists of property for inspection by the commission's engineers and report in detail on each company examined. It is customary to assign any one of these examiners to a particular case, with assistants as necessary. To one of the examiners of the $1,800 class is assigned the special duty of supervising the stenographic preparation of reports, recording them and compiling data for the commission's orders. The

four assistants and the junior accountant do the minor part of the work, such as checking, verifying schedules, examining vouchers, etc.

Of the 928 utilities under the jurisdiction of the commission on Dec. 31, 1915, there may be excluded, as far as supervision over capitalization is concerned, more than 200 municipalities, unincorporated persons, etc., with the capitalization of which the commission has little or nothing to do. This leaves about 700 corporations which may reasonably be expected to require sooner or later an examination of their books in connection with security applications. Of these companies, there are 137 whose accounts had been examined by this division up to Jan. 1, 1916. Each company had its entire capitalization reviewed by the commission, and in connection with subsequent applications for authority to issue securities it will be necessary only to bring these examinations up to date.

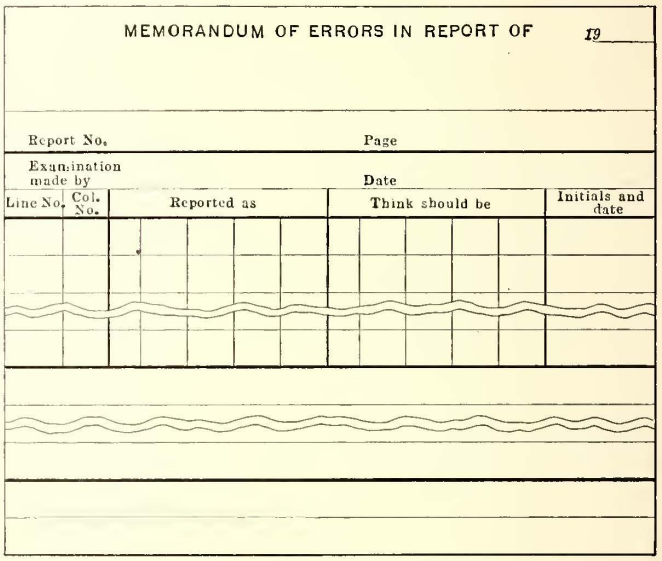
Tariff Division

The work of the tariff division is mainly to prepare, for the approval of the commission, rules governing the form of tariff schedules and the procedure for filing the same, as well as to keep all schedules filed. This division now also handles traffic inspection at Buffalo with reference to freight congestion. The employees consist of the following: Chief of division ($4,000), traffic inspector ($2,400), chief clerk ($2,000), senior tariff clerk ($1,800), stenographer-and-tariff clerk ($1,500), tariff clerk ($1,200), bookkeeper ($1,200), stenographer ($1,200) and clerk ($1,080). The chief of the division handles directly the correspondence relating to administrative work, inquiries and informal complaints, and issues under the direction of the commission, orders permitting tariff changes on short notice, suspension of tariffs, etc. He also acts in an advisory capacity to the commission and represents it in tariff conferences. The chief clerk attends to the classification and distribution of mail, the preparation of memoranda on requests for information, and the supervision of the filing of rate schedules. In the absence of the chief he is in charge of the division. Other important organization details are included below in describing the progress of the work, the minor clerks being most concerned with the filing and the indexing.

During 1915 the schedules of rates filed for the various utilities numbered 18,272, of which 112 were returned as unlawful. There were also 579 authorizations of various kinds relating to rate and fare schedules and 123 contracts of gas companies and electrical companies, making the total filing for the year 18,862 and the total up to Jan. 1, 1916, 180,959. In the electric railway group the new tariffs filed were ninety-six for freight and 249 for passengers, the latter number including 192 short-term excursion tariffs. In addition, there were fifty-five supplements to freight tariffs and fifty-one supplements to passenger tariffs filed. Freight tariffs numbering 100 and passenger tariffs numbering 239 were cancelled.

A considerable amount of work is involved in the handling of all these rate schedules. They are received by the stenographer-and-tariff clerk, who reviews them to see that they are accompanied by a proper letter of transmittal, and that postage is inclosed if a receipt is desired. They are handed to a clerk, who stamps the date on them and enters them in the receipt book. A specimen page of this is shown in the illustration on page 199. The schedules are then sent to the chief clerk, who examines them to see whether proper notice is given as to the effective date and whether they generally comply with the commission's rules as to arrangement. They are next returned to the clerk to be sorted according to the various corporations, the gas, electric, telephone and telegraph schedules being given to the stenographer-and-tariff clerk and the common carrier schedules to the senior tariff clerk. If the new schedule is an amendment to or a superseding issue of the schedule on file, a comparison is made to ascertain what changes have taken place. As the schedules pass through the described route, a memorandum is made if any defect is discovered, and the defective schedules are sent to the chief of the division to be taken up with the corporations for correction.

Besides this routine work in handling rate schedules, the tariff division each week publishes a tariff bulletin, which is edited by the senior tariff clerk. A specimen copy of this is reproduced on page 199. These bulletins are the means whereby the public is kept informed as to changes in rates, etc. They are free to the public. Each weekly issue is ready for delivery, one to each applicant, at the office of the commission in Albany on Monday morning. The bulletins are regularly mailed free to commercial organizations, trade publications, and the daily and weekly press, and they will also be


MEMORANDUM OF ERRORS IN REPORT OF 19

Report No. Page

Examination made by Date

Line No.	Col. No.	Reported as	Think should be	Initials and date

COMMISSION REGULATION—FORM FOR CORRECTIONS USED IN DIVISION OF STATISTICS AND ACCOUNTS

mailed periodically to shippers or carriers upon written request if the necessary postage is supplied. In 1915 the tariff bulletins contained 8138 items, which involved the examination of 15,312 schedules.

The work of the tariff division, in order to be effective, requires an accurate system of filing. The present file case contains 222 drawers (10½ in. x 12½ in. x 24 in.), arranged in sections six drawers high. These sections show on their face the section numbers and the numbers of the filing corporations whose tariffs are contained therein. All tariffs are numbered consecutively by the commission and filed accordingly. Certain drawers contain tariffs in effect, while others contain those cancelled or superseded. The index case takes cards 3 in. x 5 in.

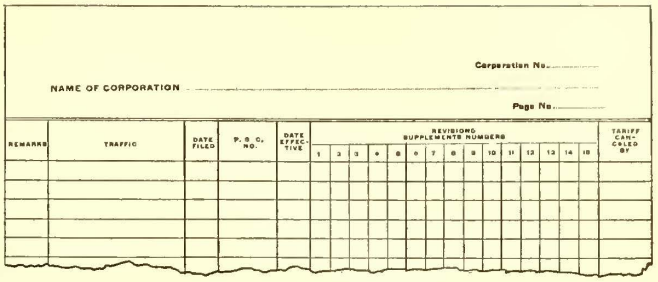
The intricate character of the indexing is well shown by the five-division system for steam railroad cards. First, there is a road card showing the name of the corporation; second, cards showing the form and the number of powers of attorney and concurrences giving the road authority to issue joint tariffs, and third, a division card headed "Local Rates." Back of this are cards showing for each tariff the file-case section, the road number, the point from and to which it applies, the history of rates by tariff numbers, and the dates effective. The fourth division of the scheme of index-

ing provides for a division card headed "Miscellaneous Schedules." Back of this are filed the cards indexing, in the same manner as class rate tariffs, all the miscellaneous schedules for back-haul charges, stock-feeding and watering charges, switching charges, etc. These miscellaneous schedule cards are filed alphabetically according to application behind sub-division letter cards. The fifth index division is for "Joint Rates." This group includes sub-division cards numbered to represent the road numbers of carriers, behind which are filed the index cards for joint rates. Moreover, all articles for which commodity rates are provided are indexed by this division as to article. Such indexing requires the making of from one to approximately 500 cards for a tariff.

Before leaving this division a mention should be made of its work in inspecting freight congestion. One employee, the traffic inspector, is located at Buffalo, where congestion is more prevalent and requires prompt investigation and provisions for relief. He looks after complaints and does such field work as is from time to time assigned to him. He also makes a number of investigations of the movements of less-than-carload shipments of freight between points on trunk lines. These inspections operate to keep the carriers' service uniform and to obviate complaints against delays which occur when carriers do not maintain their train schedules.

CENTRAL CLERICAL OFFICE

The work in the central clerical office is so diversified that it can probably be best explained by describing first the clerical employees, with their respective duties, and then important points in connection with the most



COMMISSION REGULATION—SPECIMEN PAGE FROM RECEIPT BOOK IN TARIFF DIVISION

involved part of the work, the filing and indexing system of the commission. The employees in this section may be classified in five groups: General, accounting, publishing, filing and stenographic.

1. *General Clerical Employees:*

The chief official in the general office is the executive clerk ($5,000), whose duties are many and varied. In general he writes memoranda to the commissioners as to the contents of petitions, complaints and answers, attends to the serving of orders by mail, sends out notices of hearings, draws some orders and conducts general correspondence. He now has three regularly assigned stenographers, and a large part of the time two or three additional stenographers work for him. The chief clerk of records ($2,500) follows up all orders to see that they have been complied with and reports thereon to the commission. He also has the custody of traffic contracts between carriers and is responsible for the indexing and filing of these. For certain annual reports

TARIFF BULLETIN No. 412

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION
SECOND DISTRICT

Showing Changes in Transportation Rates
Week Ending July 13, 1916

NOTE.— The rate changes herein shown are made, voluntarily, by the carrier. Neither the filing of rates with the Commission, nor announcement thereof in this bulletin for the benefit of the public, implies any approval of such rates by the Commission. They are subject, as are all rates, to complaint, under the Public Service Commissions Law.

EXPLANATION OF ABBREVIATIONS AND REFERENCE MARKS: c. l., car load; c, cents; D., decrease; gal., gallon; cwt., hundredweight; I., increase; k. d., knocked down; l. c. l., less carload; min., minimum; n. o. s., not otherwise specified; No., number; O. C., Official Classification; o. r. b., owner's risk of breakage; lbs., pounds; P. S. C., Public Service Commission, Second District, State of New York; qt., quart; Sup., Supplement; wt., weight; * by special permission of the Commission. The terms net ton and gross ton are understood to mean 2000 pounds and 2240 pounds respectively.

EMBARGOES PLACED

New York Central (East).— On shipments of Hay consigned or to be reconsigned to all consignees at Westchester Avenue (Melrose Junction), N. Y.; effective July 13, 1916. Embargo 1203.

New York Central (East).— On shipments of Waste Paper or Paper Stock consigned or to be reconsigned to Smeallie & Voorhees,

barrel or barrel sack and [illegible] barrel. Change from rates per cwt.; reductions. Effective August 10, 1916. Sup. No. 4 to P. S. C. No. 595.

ELECTRIC RAILROADS.

FREIGHT.

GENERAL COMMODITY.

Albany Southern.— Various articles, including Baskets, Grate Bars, Board (fibre), Belting, Bobbins, Castings, Clay, Cloth, Lead, Machine Parts, Pumps, Radiators, Shoddy, Teasles, Twine, and Waste, l. c. l. and c. l., from Hudson to Stottville: Reductions too numerous to specify herein. Effective August 7, 1916. Sup. No. 3 to P. S. C. No. 123.

[illegible] P. S. C. No. 123.

SWITCHING CHARGES.

New York State Railways.— On Construction Material, c. l., from Utica Park to Stop No. 4, on Little Falls line, $15 per car. No switching rate heretofore in effect. Effective July 14, 1916*. P. S. C. No. 5.

STEAM RAILROADS.

PASSENGER.

ONE-WAY, ROUND-TRIP, AND COMMUTATION FARES.

Buffalo, Rochester & Pittsburgh.— Joint one-way per capita fares for parties of ten or more adults or their equivalent traveling together on one ticket to Plattsburgh, via Rochester,

COMMISSION REGULATION—SECTION OF WEEKLY BULLETIN ISSUED TO INFORM PUBLIC AS TO CHANGES IN RATES

of the commission he prepares statements covering the history and organization of the various corporations. The hearing and publicity clerk ($2,500) prepares statements in regard to commission decisions for the daily, weekly and technical press.

The general clerical section of this division has assigned to it four male stenographers, one of whom is temporarily assigned to the division of statistics and accounts. The remaining three perform certain work in the clerical department in addition to their stenographic routine. One stenographer ($2,000) supervises the opening and stamping of all incoming mail and assists in the sorting and distributing thereof, and he also reads all outgoing correspondence for typographical and grammatical errors and reports any necessary rewriting to the secretary. In a general way, he is responsible for the mailing work of the commission. Of the two other stenographers ($1,500), one receives the follow-up matter from the filing department each day and sees that it is sent through the secretary's office to the proper individuals, while the other distributes the hearings for the calendar and keeps a chronological record of them, as well as a register showing the status of all complaints before the commission. There are two clerks ($1,500), one of whom keeps a docket record of all formal cases. The other clerk is a general utility

NUMBER	CLASS No.	DATE RECEIVED	DATE CLOSED	COMPLAINANT	RESPONDENT	SUBJECT
A 3526	72.82	27 8 16		Schwinger & Greenwald,69 W. 38th St.New York City.	N.Y. Tel. Co.	Refusal to give coin box service.
A 3527	63.82	28 S 16		Montclair Improvement Assn.,120 S. Salina St., Syracuse, N.Y.	Syracuse Ltg. Co.	Refusal to make extension on Seeley Road, Syracuse.
A 3528	12.16	"		Will, E. F. M.D., Batavia	N.Y.C.	Blocking crossings at Harvester Ave., Swan St. and Jackson St. Batavia
A 3529	44.2 44.24	"		Brisbane, James. 488 East 48th St., Brooklyn, N.Y.	National Express Co.	Delay and damage to shipment of plume from Arena to Brooklyn.
A 3530	14.2	"		Akron, Residents by Sill, S. E. et al., Buffalo,N.Y.	N.Y.C.	Service between Buffalo and Rochester.
A 3531						
A 3549						
A 3550						

COMMISSION REGULATION—SPECIMEN PAGE FROM ACCESSION BOOK USED IN FILING DEPARTMENT FOR RECORDING CORRESPONDENCE COMPLAINTS

employee for the office, assisting and substituting for the docket clerk and the auditor, acting as librarian for the commission and assisting in the compilation of statistics for the annual report of the commission.

A messenger ($1,080) is in charge of the supply room and under the direction of the secretary purchases and distributes office and typewriter supplies. He has the custody of all annual reports and bound volumes and directs the mailing of these. A laborer ($2 a day) assists this employee in the packing of reports, etc. Two junior clerks ($720), one junior clerk ($600) and two pages ($480) open, stamp and deliver the incoming mail and also seal and stamp all outgoing matter. These employees are general office and errand boys for the commission. There is also one telephone operator ($900), and a janitorial force consisting of two laborers ($900), one laborer ($720) and one cleaner ($1.25 per day).

The Public Service Commission law requires that the office shall be kept open from 8 a. m. until 11 p. m. On account of this provision there is a night clerk ($1,500), who reports at 5.20 p. m. and remains until 11 p. m. on every working day. He answers the telephone, opens messages and if necessary reports these to the secretary. The duties of an attendant ($600) are the same as those of the preceding employee, except that he works from noon until 11 p. m. on Saturdays and from 8 a. m. until 11 p. m. on Sundays and holidays.

The commission also maintains a section of its general office in Buffalo, which is in charge of an assistant to the secretary ($1,500). He keeps a record of local hearings and their disposition, and receives complaints, etc., for forwarding to the Albany office. This employee is the only one in the Buffalo office, except when other employees of the commission make use of it for convenience.

2. *Accounting Department:*

The employees in the accounting section of the general office consist of the auditor and his clerk. The former keeps all the financial records of the commission, makes up the payroll and relieves the secretary by handling all civil service matters concerning the commission. He is assisted when necessary by his clerk, who is that general utility clerk mentioned under the preceding heading. This clerk is qualified to act in the auditor's absence.

3. *Department of Publication:*

It is the function of this department to edit all reports, bulletins, orders, forms, circulars and other matter that are printed under the authority of the commission. The superintendent ($2,400) is directly responsible for such work. He arranges, revises and edits the material, makes all proper and necessary arrangements with the State printer; settles the details for the printer, such as the size of paper, quality, etc.; makes requisitions for printing, with estimates of approximate cost, and checks and approves the bills. He is assisted by a proofreader ($1,080) and a clerk ($900).

4. *Filing Department:*

The filing department is charged with the custody and recording of all papers, reports and correspondence handled in the commission with the exception of special files maintained in some of the divisions on account of expediency. The department contains two filing clerks ($1,500), one filing clerk ($1,200) and one clerk ($1,200). The first two change work each week so that each employee knows the entire scope of the work and is able to take up any part of it in an emergency. One week's work includes classifying the secretary's first morning mail and directing the indexing of it by the clerk; making up the subject matter of most of the correspondence complaints, which are indexed by the clerk; answering requests and getting out from the files old papers asked for; revising the indexing and classification of all formal petitions and complaints, and

with the assistance of the clerk filing papers belonging to these. The next week the work covers the collection and dispatch of papers for out-of-town hearings and the supervision of the follow-up system.

The ($1,200) filing clerk has general charge of classifying and indexing the first morning mail other than the secretary's, and all second morning and afternoon mails. She also reads over and classifies all interdepartmental letters and letters of commissioners received without numbers referring to the commission's files. She enters correspondence complaints in an "accession book" and makes filing folders therefor. Each morning she looks up all follow-up material in formal cases, informal complaints and general correspondence. She closes informal complaints by marking folders, index cards and book record with the date of closing and makes a list for the secretary, and she also closes formal cases by marking "closed" on the envelope of the case and the date of closing on the index card.

5. *General Stenographic Force:*

Besides the stenographers previously mentioned in connection with the various divisions and officials, there is in the general office a stenographic force consisting of a chief stenographer ($1,800), one stenographer ($1,500), four stenographers ($1,200), two stenographers ($1,080), one stenographer ($600), and two stenographers ($480). These employees attend to the writing of reports, memoranda, notices and orders of the commission and the making of copies thereof, this work being done chiefly through the executive clerk. They also do the stenographic work for the auditor and the steam railroad and electric railway inspectors, and they assist in the various other divisions when necessary. Some of them do copying work from the commission's files, records and decisions, as requested by attorneys and other interested parties, for which work the commission is reimbursed.

FILING AND INDEXING WORK

As before stated, the most involved part of the work arising in the clerical division occurs in connection with the routine tasks of the filing department, which has to keep in orderly fashion and available shape the multitude of papers and records that come to the commission. The most interesting points have to do with the filing system used, the indexing methods, the charging and follow-up systems and the handling of mail.

1. *Filing System:*

The problem of devising an adequate filing system for the commission was a perplexing one. Finally, however, a highly useful and essentially economical decimal system was worked out, and this is the one now in use. The principle of the system is the assigning to each of the ten digits from 0 to 9 a class heading and then subdividing for subjects as often as necessary. Thus the main headings cover the classes of public utilities under the supervision of the commission, as follows: 0, general; 1, railroads; 2, street railways; 3, ————; 4, express companies; 5, ————; 6, light, heat and power companies; 7, telegraphs and telephones; 8, terminals and warehouses, and 9, ————. Where a dash is shown the number is left open for future use.

These are further divided according to the subjects arising out of the practical working of the commission law. As far as possible, the same figures have been used to show analogous sub-divisions of main heads throughout, as such an arrangement makes for greater mnemonic value. For instance, 11. stands for stocks, bonds, etc., of steam railroads, 21. of street railways, 41. of express companies, and so on throughout the classification. Subdivisions after the decimal point in each group are made as far as needed. For reference purposes the filing department has an alphabetical index to the classification for every possible heading and all synonyms.

The cabinets in the filing department are of steel construction, and are divided into drawers wide and deep enough to hold legal size documents. Under the class number in the file the material is arranged alphabetically, generally under the name of the company and occasionally under the name of the correspondent. In front of each subject there is a large guide card bearing the number and name of the subject, plainly printed on a celluloid tab. On the face of the main guide there is an outline of the divisions and sub-divisions for the class number and the subjects they denote. Simple correspondence is filed just as it comes in. Informal correspondence complaints are placed in heavy manila binders, ruled on the outside to show the file and complaint numbers, name of complainant, nature of complaint and closing date.

Formal complaints, those which cannot be adjusted by correspondence and upon which it is necessary to hold hearings, are treated in the same manner as applications from companies for permission to exercise franchises, issue securities, etc. The documents and correspondence in such formal cases are placed flat in large linen envelopes. The various kinds of papers for each case, such as correspondence, briefs, orders and permissions of service and testimony, are fastened separately in binders of distinctive color before being placed in the large case envelope. This obviates the necessity of going through the entire envelope in order to locate any particular kind of document. Formal and informal cases are transferred from the files as they are closed, but simple correspondence is transferred annually.

2. *Methods of Indexing:*

The method of indexing simple correspondence consists simply of writing a card (3 in. x 5 in.) under the name of the correspondent with a file number at the left. Cross-reference cards are made for the names of additional correspondents. A letter on a new subject would mean the addition of a new class number on the correspondent's card. In case the letter refers to a particular company, the main entry would be made in the name of the company and a cross-reference card under the name of the writer. Cross-reference cards are also used for any company officials who sign letters. If the name of a place is mentioned, a blue cross-reference card is prepared.

The indexing of informal correspondence complaints is a little more elaborate than that for simple correspondence, but it is along the same lines. The name of the complainant is indexed on a white card, that of the respondent corporation on a salmon card, and that of the place, if any, on a blue card. Each card is marked "CC" (*i.e.*, correspondence complaint) in the upper right-hand corner, and on it is placed a brief statement as to the nature of the complaint. A serial number is assigned to each complaint in the order of receipt. This number corresponds to a record kept in an "accession book," a specimen page of which is reproduced in the illustration on page 200. In this a single line is used for each complaint, and twenty-five can be entered on one page. The chief value of this book is its use for statistical purposes, as it is a very simple matter to count the number of complaints received under each class during a year. It also helps the filing clerk to locate complaints when they are called for by serial number.

Formal matters are indexed on the same colored

cards as informal correspondence complaints, green ones in addition being used for applications for new securities, etc. A case number is placed on each index card, this being taken from the docket, in which a whole page is reserved for each case. All papers or letters in relation to formal cases are entered in this book before being filed, as well as the dates of hearings, closing resolutions and orders.

3. *Charging System:*

A simple charge system for letters and other material removed from the files is kept by means of small blank manila slips (about 2 in. x 3 in.). These slips contain the file number, the date of the letter or document, the name of the borrower and the date when taken. They are arranged in a special drawer in exactly the same order as the material in the files. When the papers are returned, the slips are destroyed. Should any member of the staff transfer any letters or documents charged to him, a transfer slip having a notation to that effect is sent to the filing department. From this slip a new charge is made and the old one destroyed.

4. *The Follow-up:*

An important function of the filing department is the following up of all matters until they are brought to a conclusion. The system used is the "Memindex." A notation is usually made on the face of correspondence returned to the files as to the date when the person conducting it wishes to have it again. In the absence of such notation, the clerk who discharges it uses her own judgment as to the date when it should be brought up for attention. Each morning one of the filing clerks takes from the files all papers which need attention that day, and these are sent to the secretary's office for distribution. Follow-up cards are also kept for various members of the staff, these containing lists of the matters which have been delegated to them for special investigation, etc.

5. *Handling of Mail:*

A point worth special attention is the procedure gone through in handling the incoming mail. All such mail goes first to the filing department, where it is classified, indexed and charged. Any previous correspondence is taken from the files and sent out with the incoming letters. Thus a record is obtained for each piece of mail before it comes to the attention of the addressee, and he automatically receives any related correspondence.

COST OF REGULATION

What it has cost the taxpayers in New York State to build up the regulatory machinery that has been described may be partly judged from the following table showing the expenses of the commission for the periods designated:

First fifteen months, July 1, 1907, to Sept. 30, 1908	$307,734
Fiscal year from Oct. 1, 1908, to Sept. 30, 1909	276,575
Fiscal year from Oct. 1, 1909, to Sept. 30, 1910	295,443
Fiscal year from Oct. 1, 1910, to Sept. 30, 1911	342,739
Fiscal year from Oct. 1, 1911, to Sept. 30, 1912	372,323
Fiscal year from Oct. 1, 1912, to Sept. 30, 1913	373,068
Fiscal year from Oct. 1, 1913, to Sept. 30, 1914	405 955
Fiscal year from Oct. 1, 1914, to Sept. 30, 1915	438,056
	$2,818,893

The appropriations for the last fiscal year, from Oct. 1, 1915, to Sept. 1, 1916, amounted to $394,296. The foregoing figures, however, do not include $43,414 expended from a special fund of $100,000 appropriated to investigate telephone rates in New York City. Probably the real cost of the commission for the nine years of its existence will be not far from three and a quarter million dollars.

New Clubhouse for Employees

Chicago Surface Lines Opens New Clubhouse for Its Employees, Made Necessary by the Growth of the Club Formed Two Years Ago

ABOUT 600 employees including the various officials and department heads were present at the opening of the new Chicago Surface Lines clubhouse at 1126 North Dearborn Street on Jan. 20. The club quarters are the natural outgrowth of the activities of the Surface Lines Club which had its beginning just two years ago when a small group got together in a bowling club. The idea grew from the good spirit of this small organization and the officers fostered the plan of promoting the feeling of fellowship and common interest among the employees until the club came to include some 700 members from the administrative offices with a women's auxiliary of eighty members.

From the enthusiasm which prevailed at the first annual banquet at the Midday Club, at the dances and other social events, it became evident to the officers that the club should have a home. The property on Dearborn Street offered the possibility. This is a three-story building on the north side, five minutes from the loop, which was originally built as a club house for the old Lincoln Cycling Club.

When the Union Traction Company built its cable-power house just back of this on Clark Street, it was forced to purchase this property on account of the vibration caused by the heavy engines. The place has since been leased to different organizations, with the last lease expiring on Aug. 1, 1916. Shortly afterward the officials decided to make this the social center of the company, and accordingly began making the building ready. The interior was rebuilt and redecorated completely, except two rooms on the main floor which are now used for the library and the chess and checker room, in which the old genuine black walnut woodwork was refinished and retained. The rooms were pleasantly furnished and the club equipped with two bowling alleys, an indoor golf course, swimming tank, gymnasium, etc. The library and lounging room on the first floor were furnished in a particularly attractive manner. There is also an auditorium which will seat 600 people comfortably, and a stage large enough to serve the company's entire orchestra. This room will also be used for dancing.

At the opening gathering, President L. A. Busby, H. A. Blair, J. E. Wilkie and A. J. Klatte, president of the club, gave short addresses, and the company orchestra furnished music. Later the ladies' auxiliary served light lunch and dancing followed.

It is the plan of the club to reserve the bowling alleys and swimming pool for the use of the ladies one evening a week. The present activities of the club will probably be extended later on to include certain educational features, and it may eventually become a section of the American Electric Railway Association.

In keeping with an annual custom the Illinois Traction System, Peoria, Ill., has awarded prizes to the substation attendants at stations where the appearance of stations and station grounds was the best during the past year. For stations with an agency first prize was awarded to Pithian, second prize to Harristown. For stations without an agency first prize was awarded the attendants of the substation at Anderson, second prize to Virden. In the bulletin announcing the prize winners Signal Engineer John Leisenring comments on the improvement in condition of many other stations. The competition for the 1917 prizes promises to be decidedly keen.

Developing a Publicity Plan

Immature Publicity Ideas of Officials Handicap Publicity Men—Latter Must Have Real Chance to Show Way to Publicity—Means of Promoting Loyalty of Employees and Minimizing Public Antagonism

By W. DWIGHT BURROUGHS
Publicity Manager, United Railways & Electric Company, Baltimore, Md.

An electric railway contemplating the employment of a publicity manager should first determine that it wants publicity. The man approached to undertake such work should assure himself that the organization wants publicity. Wanting a publicity man and wanting publicity are not so closely related as the uninitiated may suppose. The reason for this is that the average railway official is so thoroughly wrapped up in the minutiæ of his business that he has no publicity ideas at all, or those that he has are of such a primitive character that they are worse than useless—they are dangerous.

It is all very well when the employing organization understands this. It too frequently happens, however, that such is not the case, and the publicity man's first task is to disillusionize his employers. Sometimes this is his most difficult and discouraging task. Publicity men who have met such conditions tell me the more primitive the publicity ideas held by company officials, the more insistent these men are that such ideas are the actual goal posts of successful publicity. This attitude, if persisted in, stultifies the most efficient efforts that might be employed by the publicity man for the good of the organization. It blocks the way to the accomplishment of anything that proper publicity would bring, and when such officials finally come to a realization of the stationary position they are occupying, they simultaneously realize that they did not want publicity in the first place.

Do Not Tie Your Publicity Man Down

Hence, if you imagine you want a publicity man, satisfy yourself that you really want publicity. Then get a good man—one who will have confidence in you, as well as one in whom you will have confidence. Give him a chance to learn something about the business, and then let him show the way to publicity.

Do not tell him all you know and require him to follow your ideas without deviation. Do not give him a guide book to publicity and tell him to follow exactly all the rules laid down therein. Do not hand him a copy of the address of some one at the Atlantic City convention and tell him to have no other rule than those laid down in that eloquent paper. Do not show him a magazine article by a publicity man—Burroughs or anybody else—and direct him not to depart from the suggestions made in it.

Your publicity man can absorb a great deal of good from all these various agencies, but he should not be tied down to any rules that have not been predicated upon the conditions he finds in your organization and in your community. Tell him all you know of publicity, give him the guide book if you want to, let him read all the convention addresses and the magazine articles on publicity, and then tell him to select from each of these sources the best ideas to meet the particular situation which he has to meet.

Persons who make a close study of railway operations must be impressed with the care exercised—frequently under the most discouraging and unfavorable conditions—to cater to public comfort, convenience and safety, and to comply with public demands. I believe that the railways desire to give the people what they need; that they are anxious to render the best service possible, and that they accept the legal maxim: "When you devote your property to a use in which the public has an interest, you grant to the public an interest in that use and must submit to being controlled by the public for the common good to the extent that such interest is created." And, generally speaking, I believe that railways dissent from suggestions for their control only when they believe the suggestions do not represent the public will, and when they are not satisfied that the control sought is for the "common good."

It is so very easy to understand that the best interests of such a public service corporation as an electric railway is to do the people's will, that there can be but one answer to the question: why does any part of the public assume, as it undeniably does, that the company is antagonistic to the people, arbitrarily set against them, contrary-minded and obdurate, pompously running roughshod over the community without leave or license, save when it is summarily seized by the neck and shaken to its senses? And that answer is, the people do not know. They have not been taught to think kindly of corporations generally, and they have had many opportunities to be misinformed concerning the railway in particular.

There is not a man in any railway-blessed city in the land who, if he took stock of his store of information, would not find that he knew fifty good things about the electric railway, fifty ways in which it was of indispensable worth to him. Yet, because he knows one thing that he does not like (which fact does not signify that it is wrong), he is prone to forget the fifty benefits he enjoys and rise in indignant protest, denunciation, abuse and insult. No public service corporation will ever be free from unjust attacks. There is no earthly possibility of the extinction of the fanatics, grouches and unreasoning people who constitute an ever-present thorn in the side of everything good. But the vast majority of the people are reasonable, if one can reach them and direct their reasoning into correctly charted channels, and this directing must be done by practice and preaching.

Fostering the Spirit of Service

One of the best forms of preaching for an electric railway is that done by individual employees. For instance, the newspapers may devote columns of space to articles saying that street railway treats its men with fairness, but the man who reads these columns will not be half so much impressed as he will be by the plain spoken answer of an employee in such a conversation as follows: "Where are you working?" "On the Sixth Avenue line." "How do they treat you?" "Fine!" Here is the ideal situation. The company has won the loyalty and confidence of the employee, and he has become a preacher to the people. Railways need thousands of such preachers, and they will be far more eloquent than a whole lot of words in the newspapers.

The problem of every publicity man is to promote and foster a spirit of service in employer and employees, and to help this spirit of service to become generally recognized in the community as synonymous with safe service, courteous service and efficient service? To the extent that a corporation is able to instill in the heart of each individual and into the daily practice of every employee this spirit of care, courtesy, capability and co-operation, to that extent will it progress toward the solution of the problems that it is called upon to face. If a railway is diligent, constant and conscientious in its devotion to service, it is going to infuse some of this self-same spirit into the public mind and action, win its confidence and strengthen its moral support.

One may appear rather optimistic and enthusiastic in thus expecting a development of greater devotion to the organization among its employees and a cultivation of a clearer understanding of the organization by the public, but optimism and enthusiasm, faith and energy are essential to the accomplishment of the things in mind, if one intends to go after them in dead earnest.

Success Requires Time

In this undertaking it is impossible to achieve a considerable measure of success in a day, a week or a month. One can make headway with an individual in a day, an hour or probably an instant. A courteous word, a considerate act, something which is done right and which the layman can see might have been done wrong with the exercise of less care—any or all of these will help to win a friend. But it will not suffice for Citizen Smith to have a good opinion of the gentlemanly qualities of Jones, the conductor; or of the proficiency of Brown, the motorman; or the accuracy of Black, the clerk, or of the executive ability of White, the official. He must come to know that Jones, Brown, Black and White are not exceptions but are types of the men throughout an organization which is doing with all its might everything it can to render the public a safe service, a courteous service and an efficient service.

In an effort to analyze ways and means of encouraging employees and promoting loyalty to a company and of minimizing public antagonism and cultivating public support, I have arranged a classification of ideas which may be considered severally or jointly. Some of these are now in practice in many companies. Others are probably impracticable in some cities. Some that appear at first blush to be impracticable may prove upon consideration to be perfectly feasible.

For Cultivating Public Support

1. News articles for the newspapers concerning the activities of the company:
   - a—Construction work (prospective, under way and completed).
   - b—New, remodeled and improved equipment.
   - c—Routes and re-routing.
   - d—Schedule changes.
   - e—Special provision for meeting specific conditions.
   - f—Such action of the board of directors or officials as may be interesting to the public, etc.

2. News articles for the papers concerning resorts reached by the company:
   - a—Current and coming attractions.
   - b—Public activities at these resorts, with daily publication of organizations attending, games scheduled, etc.

3. Feature articles for the newspapers concerning interesting phases of the railway business.

4. Transfers; use of the reverse side for safety advice.

5. Folders.

6. Newspaper advertising.

7. Leaflet for distribution in the cars weekly:

This should be prepared with the idea of inspiring it with an educational value through the presentation in concise form of plain, striking facts and figures with which the public is not familiar, but which it should know if it is to be led to a proper conception of the railway's place in the life of the community.

8. Talks on interesting railway topics to community gatherings and civic, social, church and other organizations.

9. Safety first exhibition, or a general railway educational exhibition.

For Encouraging Employees:

1. Sports:
   - a—Baseball.
   - b—Bowling.
   - c—Billiards.
   - d—Outings.
   - e—Other pastimes.
2. Entertainment:
   - a—Reading rooms.
   - b—Periodic meetings at which there may be talks on railway matters by heads of departments, etc., and on general current interest topics by outsiders.
   - c—Other entertainment.
3. Publicity:
   - a—Newspaper reports of results of contests, etc.
   - b—Newspaper reports of anniversaries of service, etc.
   - c—Personal items to be placed in the newspapers for the men.
   - d—A magazine:

This should be published monthly. Its contents should be informative and encouraging; not too technical, but instructive and helpful—including good, plainly written contributions from heads of departments, etc., on various phases and features of the street railway business, the operation of the road, daily transportation problems and how they are solved, methods of management, the system in different departments, etc. With all its seriousness it should avoid heaviness and sombreness, though it should impress its readers with the dignity and importance of the respective posts which they fill and of the duties they are called upon to discharge. In short, it should be worth while to every member of the organization. Its contents should not go over the heads of any of its readers, and it should be thought too much of by them to be tossed under foot. It should have a regular column or page for suggestions and these should be solicited from all employees. There should also be a "question box," the answers being prepared by the heads of those divisions within whose province the questions severally fall.

4. Commendation.

5. Compensation—fair pay for fair work.

6. Rewards, a pension system and a life insurance plan.

7. General welfare work, looking out for the sick, etc.

In a recent decision of the Interstate Commerce Commission the New York Central Lines are ordered to enter into an arrangement with the Illinois Traction System for joint through rates from Fetzer, Ill., to points on the New York Central lines in specified territory. The decision was rendered in answer to a petition from shippers at Fetzer, a small station on the lines of the Illinois Traction System near Springfield.

Several Recent Publicity Posters

Getting Down to Rock Bottom

We must have the good will of the people we serve, to make this a successful public service corporation, from every standpoint.

We must give good service to merit your good will.

President,
International Railway Co.

We Care What You Think

We care a great deal what the people of Buffalo say and think about this Company.

Our earnest effort is constantly to improve our service.

President,
International Railway Co.

WE COURT PUBLICITY

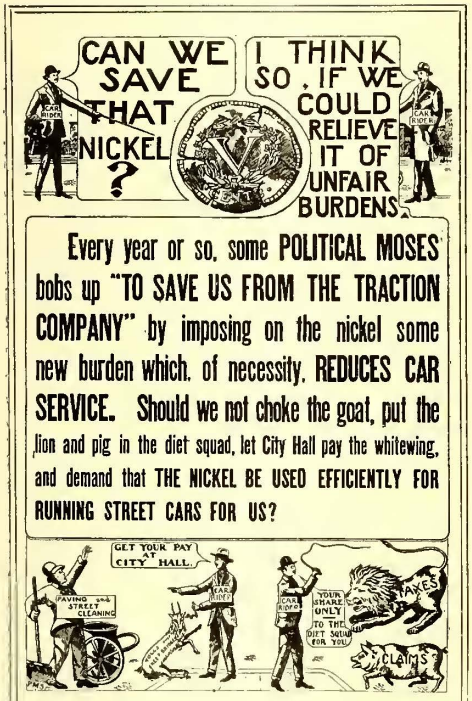
The more the people tell us about this Company the better we like it.

We like people to talk about us.

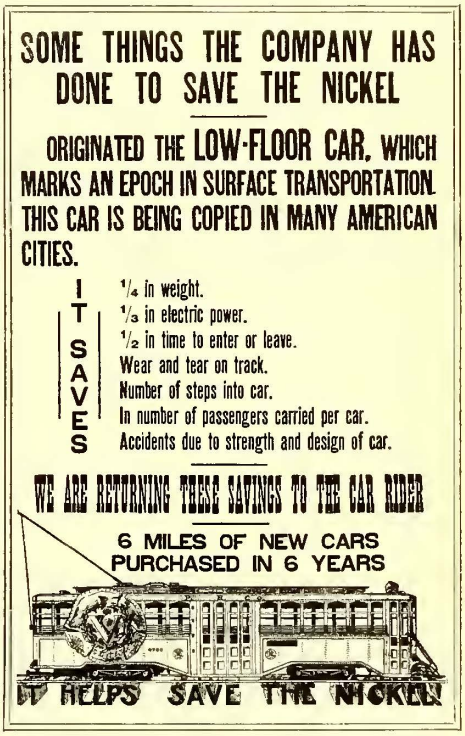
If it is good news, it makes friends for us.

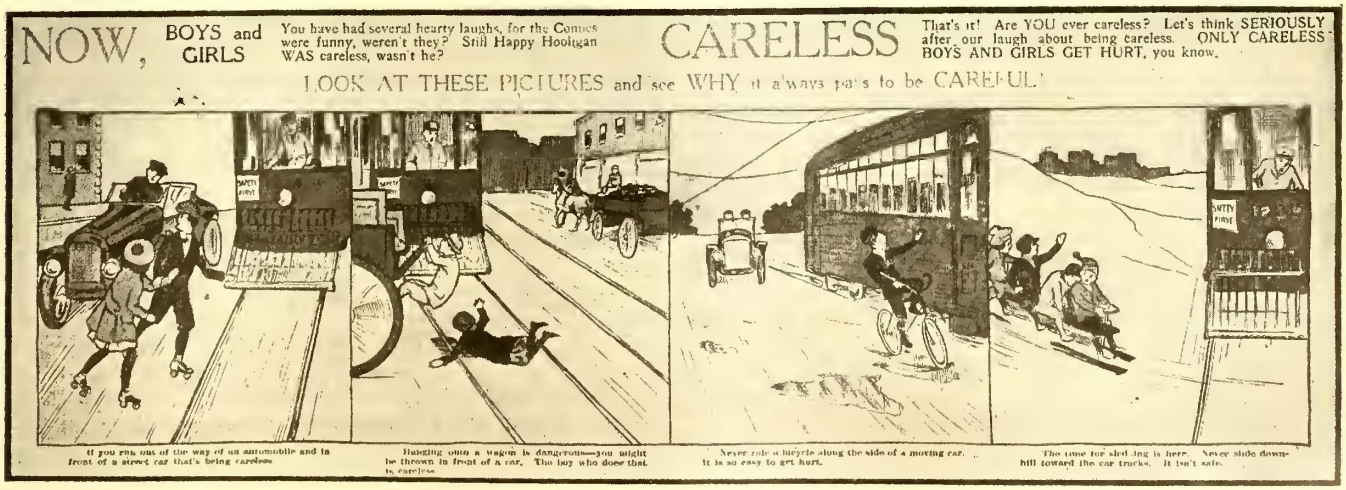
If it is constructive criticism, it helps us correct conditions which should not exist.

President,
International Railway Company



THE three posters at the top of this page were issued by the International Railway, Buffalo, within the past two weeks as part of its present campaign to improve public relations. The two posters in the middle of this page have just been published by the Pittsburgh Railways. They form parts of the series begun by the company on "How long will the nickel stand the strain?" mentioned on page 1338 of the issue of this paper for Dec. 30, 1916. The reproduction at the bottom of the page shows four of eight safety-first sketches, published in a recent Sunday comic supplement of the *Kansas City Post* and forming part of the safety campaign of the Kansas City Railways. As a direct way of reaching the children this method of advertising seems effective.





Development of Traffic

Symposium of Articles Describing the Methods Followed by Four Prominent Interurban Railway Companies—The Haulage of Freight Is Considered a Most Desirable Form of Revenue

THE ELECTRIC RAILWAY JOURNAL has obtained contributions on the subject of freight traffic from the offices in charge of this class of business on four important interurban railways. Many electric railway companies carry on a freight traffic on a small scale. A few of them do a considerable business in this line. The greater number have as yet done nothing. The writers in this issue point out that freight haulage offers an opportunity for much greater gross revenue with comparatively little investment. Their articles should be helpful at this time when automobiles are affecting to a considerable extent the passenger traffic on many interurban lines.

Advantages of Interline Business

Through Routing of Passengers and Baggage Desirable—Freight Offers a Good Field for Increased Revenue

BY F. D. NORVIEL
General Passenger and Freight Agent, Union Traction Company of Indiana

The development of traffic can be separated into two divisions, passenger traffic and freight traffic, and the latter into three subdivisions: package freight (l.c.l.), carload commodities and an expedited freight traffic peculiar to the Central West—freight carried on passenger cars and sometimes called "traction express." A volume could be written on any one of the above subjects, so that each must of necessity be treated in a brief manner.

First, let us have a square look at our passenger traffic as a source of revenue, and analyze if possible its future.

The electric railways were built as extended street car lines—urban lines—which gradually grew to be the interurban lines as we know them to-day. At first, passenger traffic was the only source of revenue considered and this, only as it might be expected from the immediately local territory. Freight and through travel received no thought in these first estimates, although as early as 1901 the "velvet" which might be secured from handling package freight was being occasionally mentioned, timidly we must admit. But what of to-day?

I think it is safe to say that practically every electric line is taking in a revenue from passenger traffic equal to, or in excess of, its most optimistic estimates, but this business is not all derived from the contiguous territory. Traction lines are fast losing to the automobile the local traffic that was once their life blood, but this business is being replaced by the longer haul and more valued interline traffic. If the revenues on electric lines have met their first estimates, why are they so hard up? Because the operating and maintenance costs were largely underestimated; hence the need for more revenue.

Now, what additional traffic can be secured from the passenger side of the transportation business? For let it be conceded that this represents as yet, on an average line, 75 per cent to 90 per cent of the gross revenue.

First, to hold what local travel you have, and possibly coax some more back to you, maintain clean cars and good schedules, keep the trains on time and tell the people about it. To do this, use the newspapers; put out neat and attractive advertising cards and plenty of time-table folders. But at home, good service will advertise a road better than anything else.

Second, if you have parks on your line, go after this business vigorously in the summer time; put on something special and run Sunday or week-end excursions. It is better to fill all the seats at half-price than to have two-thirds of the seats empty. It gets the people in the habit of riding with you. But be sure to give the people all or a little more than you advertise. Do not attempt to fool them.

Third, affiliate with every possible connection, steam or electric. You may not get much from any one of them, but every little helps—"many a mickle make a muckle." Tell the people in your advertising about this and take good care of them when they come to you.

Fourth, where possible put on long runs for trains. Go right in and compete with the trunk lines for this traffic, and do the best you can on schedules and cars, but do not forget that cars have to be kept clean and that they will not stay clean long in service unless looked after. Ticket your passengers through, check their baggage through and arrange your train collections so as not to bother your passengers any more than absolutely necessary. Above all, do not forget to tell the people what you are doing.

Fifth, make arrangements with some good steam line connections and acts as "collector of traffic" in your territory for them, for operating excursions, tourists' arrangements and like traffic to places of interest that you cannot reach by your own rails. Ticket and check baggage through, broaden your working territory to the whole country and then tell the people. This is the way to keep your revenues up. In the railroad business the injunction applies that "to those that have, more shall be given."

FREIGHT TRAFFIC

When we speak of freight traffic we mean freight just as it is recognized on steam lines, car-load and less-than-car-load. Traction lines, almost without exception, are poorly prepared to handle this traffic. Nevertheless I venture to say without fear of contradiction that there is no electric line which does handle freight but has more traffic offered to it than it can possibly take care of. Thus we know that this is a good field for increased revenues. The necessity to advertise does not now exist, but when needed I would surely do it, and I think the very best possible way to advertise this service is to visit the firm, see the "boss" first, and the shipping clerk next, leaving a shipper's guide which shows the points to which you can handle freight and the delivery time, having such guides carefully prepared and printed for each large shipping center. Then visit the retailer in each outlying city or town and induce him to order goods via your line. Keep hammering on your freight service in all general advertising put out, as this does not cost much and is the means of telling the story to the people. These

suggestions apply equally to freight both in carloads and less-than-carload lots.

As to special business, the hauling of milk and other dairy products, country produce, poultry and eggs, fresh meats, fruits and like commodities, is yours if you will only take care of it. The securing of pasteurizing stations in dairy centers and the location of poultry, egg and game depots at various points for shipping to industrial centers are easy matters if you can show the people the advantage to be derived from the use of the traction line. Hauling truck farm produce from loading stations at cross-roads, with the privilege of market selling from the car in some established market location on stated days, thus delivering the goods direct from the producer to the consumer, means much to the people and will be appreciated by them, but the commission men will not love you. The above are all matters of detail only and comprise traffic for which the electric lines have a peculiarly clear field of action.

Last but not least comes freight carried on passenger cars. This traffic has become in the Central States a valuable and real asset, a service that the people would not do without were we to try to discontinue it, for it supplies a real want. There is only one "class rate" recognized in our tariffs covering this service, the rates being based on about 50 per cent to 70 per cent of rates between like points via the old line express company, although the minimums per shipment are the same. This traffic is as yet only in its experimental stage, and there is no telling where it may eventually reach. All that is necessary is to work out all details, give efficient service, tell the people this, and gather in the shekels.

Performance of a Michigan Road

During 1916 This Company Operated as High as Eighty Freight Trains a Day—The Service Was Superior to That of the Steam Railroads

BY JAMES H. POUND
General Freight and Passenger Agent, Benton Harbor-St. Joe Railway & Light Company, Benton Harbor, Mich.

The Benton Harbor-St. Joe Railway & Light Company is situated differently, perhaps, than any other electric railway in the country in regard to the handling of freight. It is divided into two divisions, one 14 miles long, known as the Watervliet division, the other 25 miles long and known as the Dowagiac division, Benton Harbor being the terminus of both lines. The Dowagiac division passes through Eau Claire, population 500, on the Big Four Railway and terminates at Dowagiac, population 6000, on the Michigan Central. The Watervliet division passes through Millburg, a small unincorporated hamlet, Coloma, population 800, and Watervliet, population 1000, on the Pere Marquette. So it will be noted that we have no outlet for carload shipments except to the farmer direct. This business is encouraged by having a siding at every cross-road, usually about a mile apart. We have switching arrangements with the Pere Marquette Railway at Coloma, so that we may handle steam-road cars on our Watervliet division.

In 1916 we handled about 400 refrigerator cars of fruit which were shipped to all parts of the country. Ordinarily about 150 cars of manure are handled each season and approximately 750 cars of miscellaneous freight, such as coal, lumber, cement, etc., making a total of about 1300 cars which are distributed or loaded exclusively by the farmer. The use of manure for fertilization purposes is quite essential in this country, and this office has made arrangements with one of the largest distributing companies to handle its business, and most of this produce is ordered through our office and delivered to the farmer at no extra expense to him. In other words, we do all the work.

We operate at least two freight trains every day, and during 1916 operated as high as eighty trains in a day, each train composed of a motor with from one to six trailers. We have direct connection with the Chicago boats at Benton Harbor so that the farmer may leave his shipment on our docks as late as 6 p. m. and it is on the Chicago market at 4 o'clock the next morning. We pick up freight from the docks early in the morning and have it delivered to our farthest terminal by 8 a. m. This proves to be excellent service for the farmer. We also have through connection to practically all points in Indiana (traction all the way) nine months in the year, giving sixteen-hour delivery to Indianapolis and twenty-four-hour delivery to Ft. Wayne, Logansport, Lafayette, Shelbyville and Richmond, Ind. During the rest of the season the service requires about twelve hours' additional time.

In freight equipment we have five freight motors, twenty box and nine rack flats, all equipped up to M.C.B. standards. In addition to our carload business, which during September averaged thirty cars per day, we run practically the same number of cars to the boats loaded with fruit, which is exclusive of our package business.

We have encouraged the different business enterprises to ship our way, so that, for instance, we average five carloads of ice daily during the summer months. In winter, our flats are all busy carrying logs. Our rates to all points when there is steam road competition are based upon the steam-road rates and in some instances are higher. But superior service makes up the difference and gives us more than our percentage of the business.

In the handling of milk, express and mail, we have arranged so that all three of these commodities are carried on the same train. They are carried on passenger runs and are handled without additional expense to this company. The trains carry an express trailer, and the express matter is all handled by the express company. We charge 1½ cents per gallon for transporting milk, and return the empty cans free. These full cans are handled by our passenger crew in charge of the train.

We handle United States mail only as an accommodation to the public and the pay received does not more than cover the expense of handling.

A Heavy Freight Carrying Railway*

More Than Half of the Earnings Come from Freight —Through Rates and Percentages Have Been Established with Many Steam Railroads

BY A. C. WEGNER
Traffic Manager the Toledo & Western Railroad Company, Toledo, Ohio

Any electric railway that is in position to establish freight service on its lines opens up a source of revenue to that company which, with proper development, will add materially to the road's earnings. On our line, where freight service has been given considerable attention, freight revenues amount to better than 50 per cent of the total earnings.

We have been successful in establishing through rates and percentages with many steam railroads. This has enabled us to locate on our line grain elevators, flour mills, hay sheds, cooperage factories, canning factories, brick and tile plants, lumber and coal yards, one milk

*The physical characteristics of the Toledo & Western Railroad as adapted to freight handling were described in Electric Railway Journal, page 1055, Nov. 18, 1916.

condensory, a paper mill and one of the largest beet sugar refining plants in this section of the country. The establishment of these through rates has enabled the dealers in these products located on our line to dispose of their goods at almost any market on a through rate, giving them the same advantages that dealers in these same commodities in adjacent towns located on steam railroads enjoy.

By the establishing of rates on lumber and forest products from North Pacific Coast points, Southern points, and Michigan and Wisconsin points, lumber yards have been established at various places and enjoy the same advantage as if located on a steam railroad. The same applies to coal, through rates being established on bituminous coal from Ohio and West Virginia fields, as well as on anthracite from Pennsylvania fields.

At one point on our line we have direct track connections with a sugar refining plant. During the season just finished, we handled approximately 1000 carloads (in standard freight equipment) of sugar beets to this plant. Most of these beets originated on our own line, but several hundred carloads came from various steam railroads, which published through rates on this commodity in connection with our line. We also handled close to 100 carloads from points on our line to Toledo for delivery to the sugar plant located at that point, making a total of about 1100 carloads of sugar beets this season. On account of the extremely dry summer it was an off year on beets in tonnage. During the season of 1915, with more favorable crop conditions, we handled for both points 1995 carloads of beets. We will have handled before the season is over from the plant located on our line about 300 carloads of beet sugar and beet refuse or pulp, moving off our line to various points in connection with those steam lines with which we have through rates.

Another big source of freight revenue is the handling of crushed stone for stone road building purposes. During 1916 we handled between 2000 and 2500 carloads of this class of freight, which, bringing on an average of $16 per car, shows a very handsome addition to our earnings.

We have established stock pens at all points, enabling live stock dealers to drive their stock in and load from there directly into the car. Some of this stock moves to Toledo over our rails and some to Buffalo, Chicago, Cleveland and other markets in connection with the steam roads with which we have through rates published to destination.

Our line passes through a rich farming country and carries a large amount of milk and cream. Located at Morenci, Mich., is a large milk condensory, owned by a company which also has a plant at Toledo, our eastern terminus. Starting in a small way, its milk business over our line has increased wonderfully in the past few years. Formerly the milk was handled in our regularly scheduled package freight cars, along with other traffic. After some time the total number of cans increased to such an extent that it was necessary for us to establish a milk run, which handles nothing but fresh milk from Morenci and intermediate points to Toledo. By advertising the establishing of this milk run among farmers and the different dairies it was not long before this train carried its full capacity load. On many days it amounts to more than this special can handle, and the remainder is brought in by the next scheduled freight car.

Later on the dairy company began to bottle the milk at the Morenci plant, cool it there, and now ships it out in standard refrigerator cars over our line to our Toledo terminal, from which it is switched to the private side track of the dairy company. Arriving there about midnight, it is checked out to the wagons of the company. This plan results in the milk being delivered at the door of the consumer during the early morning hours. At the present time this business has been increased to two carloads per day, and by next spring it is expected that this will be increased to three carloads per day. Milk being a high-rate commodity, this particular traffic is most desirable.

As our line is known as a heavy freight carrying electric railway, I feel warranted in saying that the electric lines must look to the development of freight traffic on their lines in order to show any substantial increase in revenue, and so far we are well pleased with the showing our line has made in that phase of railway traffic.

A Far Western Experience

Seven Definite Recommendations Given for Development of Freight Business—Experience and Ability Form the Combination That Will Succeed

BY W. H. SOMERS

Traffic Manager Puget Sound Railway, Pacific Northwest Traction Company, Puget Sound Traction, Light & Power Company, Seattle, Wash.

The development of freight traffic is an important phase of the freight business. Good service and adequate facilities are requisites and should be provided to the extent that the present and prospective business justifies. Insofar as special facilities are concerned it is doubtful if small lines can afford to speculate on the future in making permanent investments in auxiliaries such as grain elevators, lumber sheds, warehouses, etc., for the encouragement of freight tonnage, unless under exceptionally favorable circumstances which are likely to be very rare.

To be successful, special facilities of this character should be advantageous to the shippers. In fact they should be more or less of a necessity. They should therefore be paid for and maintained by the shippers or handled as a commercial proposition and not as a railway facility. It should, however, be the duty of the transportation company to seek opportunities to encourage the location of warehouses along its lines. Nominal or low rental charges for locations on the railway company's property and a proper basis of rates that will equalize competitive conditions are among the attractions that may be offered.

If the shipper has his money invested in these facilities it virtually makes him a partner in the business, and the railway company is assured of his patronage. Otherwise, the transportation line has no command of the situation.

Insofar as new methods of developing freight traffic are concerned, it may be stated that the evolution of the business has been gradual and not prolific in new discoveries or new methods. The usual means are generally known to experienced freight officials, but they are of varying adaptability and each field seems to present its own intricacies. Success on electric lines is more likely of attainment through the intensive development of the usual methods as applicable to the local situation, than in dependence on new methods.

It is doubtful if any set of practices can be laid down for general guidance, as the conditions vary. There are, however, certain methods that should ordinarily suggest themselves and among them may be mentioned the following:

1. Provide adequate and reliable service.
2. Learn the needs of shippers and endeavor to supply them.

3. Familiarize the shippers with your advantages.

4. Arrange joint rates with steam roads and electric lines where opportunity offers, thereby extending the range of operations.

5. Endeavor to have the points of supply or consumption of products or material changed so that participation in the transportation may be possible.

6. Extend spur tracks into industries where the present or prospective business amply justifies the expense.

7. Encourage the location of new industries along the line, and the enlargement of old ones.

Satisfactory results have been produced through the application of the methods mentioned, but there is one outstanding and essential qualification which virtually embodies them all, and that is practical experience. Methods and formulas may be readily obtained or devised, but successful results are dependent upon the amount of experience and practical knowledge that enters into their execution. What is true of practically every other line of endeavor is equally true of the freight business, and the different results obtained by experience and inexperience may bear but slight resemblance.

The average electric line bears the same relation to the large steam road as the small tract does to the large farm. Intensive methods should govern the former while extensive means are usually applied to the latter in each case. With the electric line, as with the small tract, success is dependent largely upon the accumulative results of diversified efforts, and in both cases the accomplishments will be in about the same measure as the experience and ability.

It is entirely possible for one inexperienced in the freight business to be daily treading upon opportunities without being conscious of their existence—or who upon recognition is unable to appraise them at their proper value. Likewise opportunities may be wasted by inexperienced effort. It is not sufficient to be able to read tariffs and quote rates. One should know the principle on which rates are based and the rate merit of the principal commodities. Otherwise he may not know whether the movement of certain commodities is being retarded or whether the revenue obtained is relatively adequate in upholding the general average.

It is not sufficient to be conversant with one's own rates and service. A traffic official should have general knowledge of the activities of the shippers insofar as they pertain to transportation and to present and prospective markets.

It is not sufficient to assemble an array of methods of other lines and automatically try to put them into practice without full regard to their local application. The local adaptability and the manner of execution may minimize or magnify the results. The variance in the results obtained is due not so much to the knowledge of general methods as to the ability to recognize and develop opportunities.

It is therefore evident that experience is the basis of success in the electric lines' freight business, first in determining the extent to which they should engage in freight operations, and second, in the development work. Experience and ability, in conjunction with the devotion of thought and effort, are the combination that will succeed, and without that combination methods and formulas are of only secondary value.

Small electric lines may feel that their business does not justify the expense of an experienced freight official. However, this should not deter them from the effort to equip themselves properly with talent, and what cannot be done individually may be entirely possible of accomplishment collectively. Therein will lie a measurable achievement in the development and upbuilding of the freight business of a number of the electric lines.

Decreasing Accidents Through a Bonus System

Milwaukee Employees Receive 40 Per Cent of Savings from Injury and Damage Allowance—Participation Based on Demerit System

THE Milwaukee Electric Railway & Light Company, Milwaukee, Wis., has in operation a bonus plan whereby employees in the transportation department receive part of the savings secured by more careful attention to the prevention of injuries and accidents. According to Bruce Cameron, superintendent of transportation United Railways, St. Louis, Mo., who made an investigation of the system in Milwaukee and submitted a report to President Richard McCulloch, the employees in Milwaukee are enthusiastic over the success of the plan during its eighteen months of operation.

Mr. Cameron's report, which was abstracted in a recent issue of the *United Railways Bulletin*, stated that a certain per cent of the gross revenue of the Milwaukee Electric Railway & Light Company is set aside each year to pay injury and damage expenses arising from the operation of the cars. Any saving made from the allowance is partly distributed in the form of a bonus to the employees in the transportation department. If, for example, $500,000 is set aside to meet injury and damage payments and only $400,000 is expended because of increased care and intelligent operation of the cars, 40 per cent of this $100,000 saving (or $40,000) is divided among the employees. A similar percentage goes to the company, and the remaining 20 per cent into a fund for keeping the records. The bonus paid to the men is in addition to the present wage scale and system of compensating the employees according to the length of service.

The motormen and other employees who are entitled to receive a bonus draw 73 per cent of the employees' share, and the conductors entitled to a bonus draw the remaining 27 per cent. The bonuses received by the motormen and conductors climbed steadily during the first year until the motormen were earning $7 extra each month and the conductors about $5 each month. The other employees in the transportation department, such as division superintendents, supervisors, foremen, clerks and miscellaneous car service men, received approximately the same amount of extra money. All employees are figured on the same average of earning capacity, about $1,200 each year, so that the motormen and conductors have an almost equal standing with the superintendents, supervisors and foremen.

In addition to the money allowed to meet injury and damage payments, the report says that another sum is set aside for the maintenance of equipment. If by careful operation there are fewer collisions and less property is destroyed, the difference between the allowance and the cost of repairs and replacements is divided. Moreover, the saving in power through the intelligent operation of the cars figures in the bonus appropriation. A certain sum is also established as the reasonable earnings per car-mile, and if every car hauls its own load, keeps on its own space or secures increased fares, the difference earned above the sum designated is divided among the employees.

The right of employees to share in the bonus distribution is determined from their records. The company has a grade book, and all infractions of rules carry with them a certain number of demerit marks. At the first of the month each employee starts out with 1000 merit marks to his credit. If he is demerited in accordance with the grade book and fails to maintain a grade of 750 points, he loses the right to participate in the bonus for that month, while the careful and

efficient profit through his carelessness. Any employee demerited 250 points in three consecutive months is liable to dismissal. The demerits for each accident or violation of rules are determined in the first instance by the division superintendent, the right of appeal being reserved in turn to the bonus committee, the superintendent of transportation and the general manager or president.

The bonus committee at each carhouse consists of the division superintendent as chairman, the director of the Employees' Mutual Benefit Association from that carhouse, and another employee of the transportation department. If the director happens to be a motorman, then a conductor is elected to be the other representative, and vice versa. The motorman or conductor chosen must have a service record of at least three years with the company and be in good standing.

There are no lay-offs or suspensions on account of infractions of the rules of the grade book. The division superintendent posts the demerits in the assembly room of the carhouse. The superintendents, supervisors, foremen, clerks, etc., are demerited on account of infractions of the rules the same as motormen and conductors. Their infractions pertain particularly to negligence in not looking after the cars, letting a space go by unattended, not furnishing the proper service or not attending to duty in any other way.

The Milwaukee plan, according to Superintendent Cameron, gives all employees of the transportation department direct responsibility and interest in reducing the cost of operation, increased safety and revenues from car operation, provides a system for enforcing discipline, and recognizes and rewards the services of efficient men whose treatment of the public earns good will for the company.

Extension of Milwaukee Electrification

Chicago, Milwaukee & St. Paul Railway Authorizes Electrification of Two New Engine Divisions Totaling 220 Miles in Length

THE electrification of two additional engine divisions has been authorized by the directors of the Chicago, Milwaukee & St. Paul Railway. These two divisions lie between the city of Seattle and the division terminal of Othello, about 220 miles to the east, crossing the Cascade Mountains and extending for some distance onto the relatively level plain that comprises the eastern part of the state of Washington. Eastward from Othello, across this plain, there will thus be a gap of somewhat more than 200 miles that is not included in the immediate plans for extension of the electrically-operated line. Temporarily, at least, the division point at Avery, Idaho, which lies at the foot of the Bitter Root Mountains, will remain the western terminus of the original 440-mile electric zone that is now being operated. Ultimately, however, the plan is to establish electric operation over the entire western end of the system, giving a stretch of nearly 900 miles of electrified track between Harlowtown, Mont., and the Pacific Coast.

C. A. Goodnow, assistant to the president, Chicago, Milwaukee & St. Paul Railway, is quoted to the effect that the new electrification through the Cascade Mountains is being undertaken because of the phenomenal success of the electric zone already completed, the outstanding feature of this being the ease with which heavy freight trains are being handled on the mountain grades. Five freight trains of about sixty cars each are moved daily each way across the mountains by the electric locomotives, and it is estimated that four hours' time are saved by each train on each 100 miles of road.

Surveys for the new work have already been made, and the line will be placed in service as soon as possible. No orders for equipment have been placed as yet, but the same type of apparatus, including locomotives, substations and overhead, as that now installed on the present electric zone will be adopted. This involves the use of 3000 volts direct current supplied from substations spaced about 30 miles apart. Power is received at 100,000 volts and is converted by motor-generator sets which supply a catenary contact system with twin copper contact wires supported on wooden poles with bracket arms. The locomotives are of 280 tons weight and are equipped with eight motors of 450 hp. each.

Commission Can Increase Fares Without Municipal Consent

New York Court Holds That Utilities Have Right to Reasonable Rates Despite Franchise Restrictions Imposed by Cities

AN important contribution to legal interpretations of the Public Service Commission law of New York State was recently made by the Appellate Division of the Supreme Court, Third Department, when it overruled the Public Service Commission for the Second District of New York and held that the commission could authorize increased fares beyond the stipulated franchise rate without the assent of local authorities. This decision was rendered in the case of the New York & North Shore Traction Company, Roslyn, N. Y., against the above-mentioned commission (162 N. Y. Supp. 405).

In 1907, the company, then bearing the name of the Mineola, Roslyn & Port Washington Traction Company, secured municipal permission for construction, one condition being that the traction company and its successors should not charge more than 10 cents for a continuous trip from Mineola to Port Washington. In 1915 the company applied to the commission for a fare increase, alleging that 10 cents was unjust and unreasonable. The commission, however, held that, although facts were alleged which, if established, would be ample to warrant the granting of the order sought, it could not, without the consent of the local authorities, increase the fare beyond that set in the original consent.

The ruling just rendered on appeal, however, completely nullifies the decision of the commission and remits the petition for a fare increase to it for further action. The court remarks that the Legislature is prohibited by the constitution from authorizing the construction and operation of street railways except upon the condition that the consent of the local authorities be first obtained. It adds, however, that under another constitutional provision that must be considered in this connection, the local authorities are prohibited from attaching conditions to their consent which assume to regulate the rate of fare, because the right to regulate fares to be charged by public service corporations is essentially a legislative function. This power, of course, is now delegated to the Public Service Commission. In other words, the constitutional provision regarding the giving of consent is a restriction upon the Legislature; and the constitutional provision regarding the exercise of the legislative power is a restriction upon the local authorities in the matter of attaching conditions fixing rates of fares. The court recalls that under a previous decision (196 N. Y. 158, 165) the consent of a city is but a step in the grant of a single, indivisible franchise to construct and operate a street railway, for the authority to make use of the streets for railroad purposes primarily resides in the the State and is a part of its sovereign power.

In conclusion, the court states:

"The Public Service Commission, without the assent of the local authorities, is vested with power to increase the rate of fare on the company's line between Mineola and Port Washington beyond the stipulated rate, in case the proofs shall warrant the decision that the present rate of fare is insufficient to yield a reasonable compensation for the service rendered, and is unjust and unreasonable."

COMMUNICATIONS

Changes Needed in Laws Affecting Personal Injury Suits

SAN FRANCISCO-OAKLAND TERMINAL RAILWAYS
OAKLAND, CAL., Jan. 18, 1917.

To the Editors:

Judicial decisions which have established the legal principles under which are decided street railway personal injury cases are the outgrowth of conditions existing when the electric railway was in its earlier stages of development. In other words, the laws under which such cases must be tried do not suit present conditions. The present situation, involving an unfair burden upon the electric railways, could probably be remedied if the facts were made plain and the electric railways of the country would co-operate to secure the necessary changes in state laws.

When the electric street car first appeared and for years thereafter it was regarded as a strange and unusual method of transportation. The source and application of the energy it used was not generally understood. Its capacity for injury and damage appeared to be large as compared with the slower moving vehicles of the day. The electric car seemed to be in a class by itself, and the burden of extraordinary care and responsibility was placed upon those who operated it. Early legal cases which were decided unfavorably to the electric roads strengthened the popular belief that the electric railway was a dangerous means of travel, and the tendency was to increase the burden upon electric railways.

In the last two decades there has been but slight change in the legal status under which are considered damage and personal injury cases involving electric railways, yet in this time the relative position of the street railway to other common methods of travel has been practically reversed. The swiftly moving automobile in both private and jitney service, with its extremely high rate of acceleration, the heavily laden automobile truck and the large sightseeing automobiles which often carry as many passengers as the street car have increased the traffic dangers many fold. Meantime the improvement of the mechanism of the street car has materially increased the safety of its operation.

Judicial decisions, taking account of changed transportation conditions, so far as pedestrians, automobiles and horsedrawn vehicles are concerned, have kept pace with modern developments with the single exception of the electric railway. The street car is still governed by laws which deal with it as an exception in transportation equipment, potentially as dangerous and to be saddled with the same relative degree of responsibility as during the early years of its development.

Judicial decisions have recognized that a street car must of necessity travel along a fixed path, but they usually fail to determine any principle of right-of-way between street car and automobile. Traffic laws show the same deficiency. Only recently was the passage of a traffic ordinance secured in Oakland, Cal., which gave to street cars at intersecting streets a right-of-way over automobiles. The facility with which automobiles can stop is recognized, but street cars are still held rigidly responsible for the failure of motormen to stop in time to avoid collisions, while, on the other hand, the negligence of an automobile driver cannot be imputed to the passenger or guest in the automobile.

There would be a decrease in "ambulance chasing" and unfounded litigation against street railways as a means to a financial end would be discouraged if the much needed revision of the present laws could be secured. The street railway is a fertile field for exploitation in personal injury suits because only large corporations, always able to respond in damage cases, engage in this field. One element in the situation which requires a change most urgently is that trial costs of a personal injury case have to be paid by the winning party with a judgment for costs against the losing party. Thus unscrupulous lawyers need not hesitate in urging suits against the company on a 50-50 basis. Neither lawyer nor client undertakes risk because in case of decision unfavorable to the client means are easily found to evade the payment of costs by the plaintiff, and the railway company has to stand the loss entailed by the purely mercenary scheme of the "ambulance chaser."

W. H. SMITH, Attorney.

Were the Paving Repairs Useless?

BROOKLYN RAPID TRANSIT COMPANY
BROOKLYN, N. Y., Jan. 30, 1917.

To the Editors:

Referring to your editorial on "Useless Repairs to Street Paving," in the issue for Jan. 27, I wonder whether you made inquiry of the maintenance engineer as to why the paving work was being done despite the bad-joint conditions. A situation arises quite often on a large property where one is confronted with a choice between two evils. It can be imagined that the city authorities may have ordered the paving repairs on the street to be done in a specified time without consideration of the ability of the railway to find the men and stop other work of more importance in order to make the joint repairs before the paving work. It not infrequently happens that the city will step in, regardless of requirements from a track viewpoint, and do the paving work at the railroad's expense with the later joint repair still to be done at further expense. Then, too, very bad paving conditions are not good to leave over a winter season, and accident hazard often outweighs all others to such an extent that the temporary repair of paving at the poor joints may be warranted. Furthermore, if the tracks in question are to be rebuilt early this spring, the failure to make joint repairs had a justification in the avoidance of the joint repair expense. It hardly seems conceivable that any official charged with track maintenance would permit the work criticised under any other conditions.

R. C. CRAM,
Assistant Engineer Way and Structure Department.

The Illinois Traction Company, Peoria, Ill., knowm as the McKinley lines, E. E. Soules, manager of the department of publicity, has sent a greeting in the form of a handsomely lithographed card 5¼ in. wide by 3¼ in. high to the editors of the newspapers in the company's territory. The card contained this expression of appreciation: "The good will you have shown us is a valued asset for which we owe you our sincere thanks and our best efforts to serve you during the coming year."

MID-YEAR MEETING
BOSTON
FEBRUARY 16, 1917

ASSOCIATION NEWS

MID-YEAR MEETING
BOSTON
FEBRUARY 16, 1917

Simplification of Wheel Flange Designs Considered by Equipment Committee—Engineering-Accounting Topics Discussed at New York Meeting—Personnel of Standards Committee Announced—Report of Chicago Section Meeting

Flange Contours Discussed by Equipment Committee

Wheel flange contours constituted the major subject of discussion at a meeting of the equipment committee of the Engineering Association held in New York, Jan. 30. E. M. T. Ryder of the committee on way matters attended the meeting and asked for consideration of the possibility of adopting a single standard flange to permit standardization of city special work. The question was raised as to the possibility of providing for M.C.B. flanges in city track, and also in regard to the possible use of a single city flange.

It was conceded that the opportunity to bring interchange equipment with M.C.B. flanges into cities would be most desirable, but the sense of the committee was that no way was apparent to eliminate the present mongrel interurban flange that stands between the M.C.B. design and that frequently used for city cars.

Mr. Ryder then asked for the adoption, if possible, of a single standard thickness of 1 1/16 in. for all flanges, whether for interurban or city wheels, but with varying heights to suit special conditions, and it was decided to canvass a selected list of member companies to determine sentiment in this regard. The query is to be whether a single standard flange thickness is feasible with the three heights, respectively, 5/8 in., 3/4 in. and 7/8 in., the 5/8-in. flange being introduced because of its not inconsiderable use at present.

The balance of the meeting was occupied with reports from sub-committees on revision of the various standards of the association. Among these the most radical proposal was that of eliminating that section of the Engineering Manual included under the head of "Miscellaneous Methods and Practices." The consensus of opinion was that the material had but little value, especially because much of it had not been brought up to date. The matter was referred to the executive committee.

The meeting was attended by H. A. Johnson, E. W. Holst, W. E. Johnson, J. J. Sinclair, J. R. Ayers, R. H. Dalgleish and W. G. Gove, chairman, together with representatives of a number of manufacturers who were serving on sub-committees.

Engineering-Accounting

The first meeting of the engineering-accounting committee for 1917 was held at association headquarters on Jan. 22 and 23. Harold Bates, New Haven, Conn., chairman of the committee, presided, and the following other members were in attendance on the first day: J. C. Collins, Rochester, N. Y.; H. A. Gidney, Boston, Mass.; C. H. Lahr, Akron, Ohio; E. P. Roundey, Syracuse, N. Y., and F. H. Sillick, New York City. On the second day J. M. Joel, Utica, N. Y., and W. O. Ingle, Rochester, N. Y., attended the meeting.

The first of the two subjects assigned to the committee is that of interdepartmental charges. The various phases of this subject were thoroughly discussed by the committee, a review also being made of past discussions and recommendations by former committees. It seemed to be generally agreed that the inclusion of interdepartmental with overhead charges in street railway construction and operation is correct in principle and necessary to determine the true cost, and also that some system of cost accounting supplemental to the regular prescribed accounts is desirable. In consequence a sub-committee, consisting of F. H. Sillick, chairman, H. A. Gidney and J. P. Ripley, was appointed with instructions to devise a method of determining an apportionment of shop and power expenses for construction and operation in interdepartmental charges, defining the elements to be considered as so-called overhead charges.

Consideration of the foregoing subject took up most of the first day with the exception of a short discussion of the second topic assigned the committee—the further development of a system for maintaining a continuous inventory of physical property. A second sub-committee to handle this work was appointed, consisting of C. H. Lahr, chairman, L. P. Crecelius and J. C. Collins.

On the second day the discussion of continuous inventories and the system drawn up by the 1916 committee was continued, and certain suggestions were made to the sub-committee, including: (1) A revision of the index system. (2) A consolidation of the primary forms for reporting property changes to the inventory department into one suitable for all cases. (3) The design of sub-forms for the reporting of information by men in the field. (4) A testing out or application of the system outlined by the 1916 committee to disclose any other ways to make improvements.

Engineering Standards Committee

As stated in last week's issue the Engineering Association committee on standards will not consist as heretofore of the chairmen of the technical committees, the purpose of the change being to bring in a group not directly responsible for the committees' recommendations. The 1916-1917 committee consists of the following:

H. H. Adams, Chicago, Ill., chairman; J. H. Hanna, Washington, D. C., vice-chairman; G. W. Palmer, Jr., Boston, Mass.; John Lindall, Boston, Mass.; Martin Schreiber, Newark, N. J.; L. P. Crecelius, Cleveland, Ohio; J. M. Larned, Pittsburgh, Pa.; E. R. Hill, New York City; H. H. Norris, New York City.

Chicago Section Meeting

At the meeting of company section No. 6, held in Chicago on Jan. 16, 130 members and visitors were present to listen to an address by H. M. Brinkerhoff, chief engineer Chicago Transportation and Subway Commission. Mr. Brinkerhoff spoke on "Chicago's Transportation Problem," and used maps of the city showing the proposed extension of the present elevated lines, the new elevated lines and the proposed subways by way of illustrations. He also explained the plans proposed for financing the work and equipping the system ready for operation. During the evening the trio from the Elevated electrical department furnished excellent music.

Practical and Economical Solutions of Problems in

EQUIPMENT AND ITS MAINTENANCE

Classification of Trucks to Aid Builders and Users—Improved Switch Mate in B.R.T. Standards—Ballast Spreading with Great Economy of Labor—How to Assemble Pinions Correctly—Big job Done with Pole Jacks—Light Weight Portable Welding Furnaces

(Contributions from the Men in the Field Are Solicited and Will Be Paid for at Special Rates.)

Tongue Switch and Mate Standards

Unusually Large Mate Center Found Economical on B. R. T. System

BY M. BERNARD
Assistant Engineer Way and Structure Department

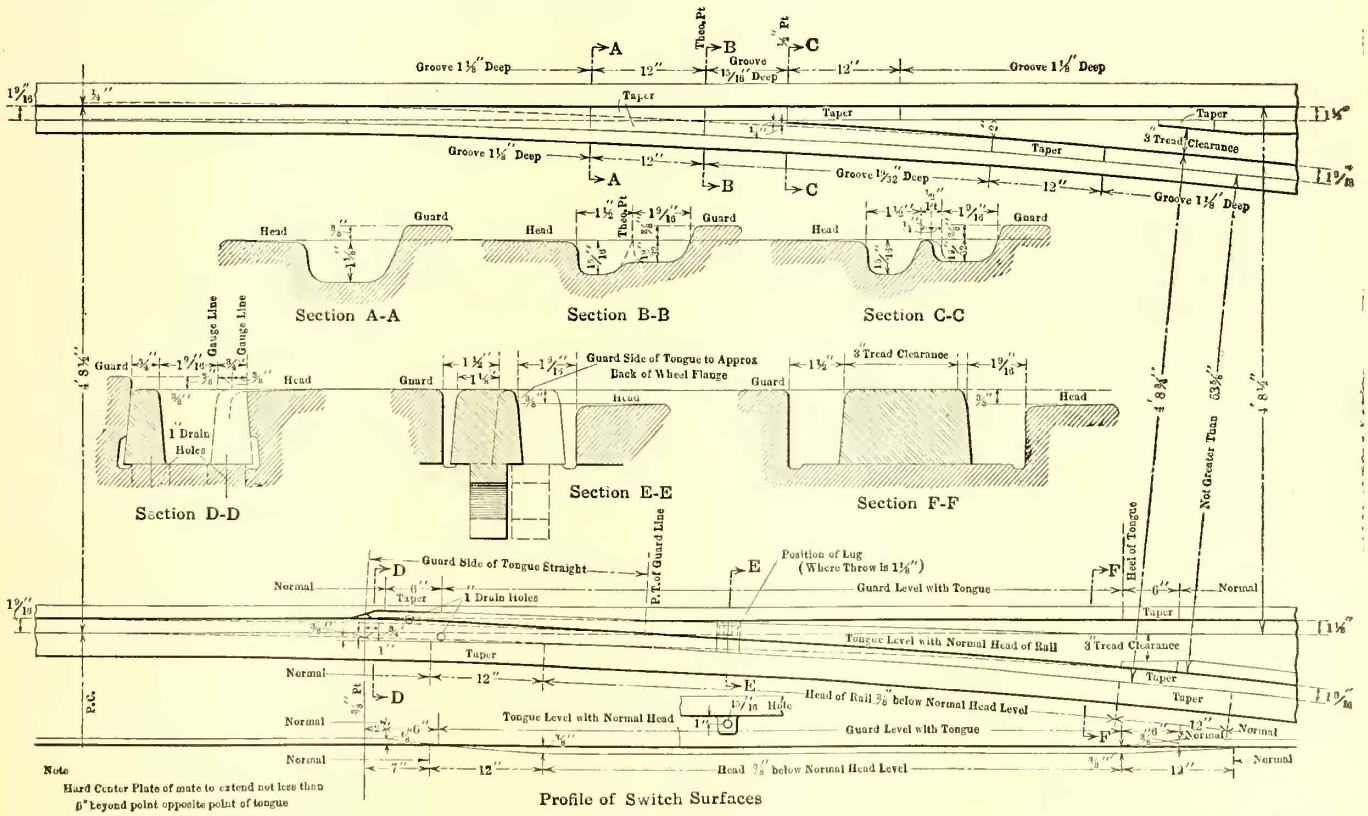
In this issue of the ELECTRIC RAILWAY JOURNAL for July 22, 1916, page 148, the standard track layout designs of the Brooklyn Rapid Transit System were described. The present article deals with standard tongue switches and mates adopted on the same system.

It was considered impracticable to specify any special type of fastening or heel, exception being taken, however, to the use of pin tongues, since the tongue switches furnished by the various manufacturers have certain special features in their design which are covered by patents. The accompanying drawing shows the alignment and face dimensions adopted for the switches and mates together with profiles of switch surfaces.

Attention is called, especially, to the comparatively large mate center whereby protection is afforded to the mate opposite the tongue point, mates generally being designed with manganese steel inserts to protect the mate point only. It is believed that by extending the center in the mate to a point approximately opposite the end of the tongue switch center, the pounding and gouging out of the open-hearth steel, frequently found in mates at the point, will be greatly reduced or entirely eliminated. This gouging out at the toe is illustrated in the accompanying photograph. Experience thus far shows that the additional cost for this improvement is well justified.

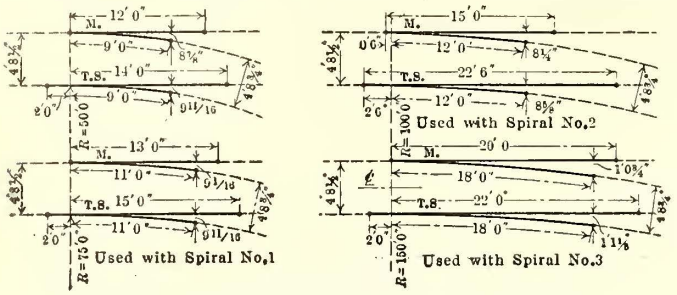
VIEW SHOWING GOUGING OUT AT TOE OF SWITCH MATE

The lengths adopted as standard for tongue switches



ALIGNMENT AND FACE DIMENSIONS OF STANDARD TONGUE SWITCHES AND MATES OF THE BROOKLYN RAPID TRANSIT COMPANY

of 50-ft., 75-ft., 100-ft. and 150-ft. radii are given in the diagrams below. The curved arms are made in the lengths as shown to permit their use with any one of the standard spirals regardless of the radius of the abutting portion of the curve of which the switch piece forms a part. This would not be possible if the lengths were



STANDARD LENGTHS OF SWITCHES AND MATES ON B. R. T. SYSTEM

made greater since the radius of the abutting arc varies according to the design adopted for the special work layout. Likewise, it would be impossible, without rebending the end portion, to use switches having greater lengths than these in connection with cross overs, whose design embodies, generally, a uniform radius at the ends with straight frogs in the middle portion.

Truck Classification

The Author Advocates Use of a Uniform System of Symbols for Defining the Various Classes of Electric Railway Car Trucks

BY S. A. BULLOCK
Manager Electric Truck Department, Baldwin Locomotive Works, Philadelphia, Pa.

In this day of efficiency and standardization it seems strange that little effort has been directed toward a truck classification that really defines—a universal classification that has face value and is not entirely empirical.

Steam locomotives are definitely classified by the location and number of wheels. For instance, 2-4-2 indicates an engine with two idler wheels under the front end, four drivers under the boiler and two trailers under the rear end of the locomotive. With electric railway car trucks one finds such classifications as 39-E-1, 0-36, and 54-18-M. Does anyone aside from the manufacturers know how to compare them? Why not make the name define the object?

This is by no means the case at present. For example, 39-E-1 represents a Brill maximum traction truck with one outside-hung motor per truck. The wheelbase is 54 in. and the maximum center plate load 20,000 lb., the journals being 3¾ in. x 7 in. for drivers and 3 in. x 6 in. on trailers. 0-36 represents the Standard Motor Truck Company's maximum-traction truck, with wheelbase 54 in., center-plate load 18,000 lb., journals 3¾ x 7½ in. for drivers and 3 in. x 7¼ in. on trailers. 54-18-M represents a Baldwin maximum-traction truck, with wheelbase 54 in., center-plate load 18,000 lb., journals 3¾ in. x 7 in. for drivers and 3 in. x 6 in. on trailers.

Baldwin's present method of defining a truck class is that the first figures indicate the wheelbase in inches, the second figures represent the maximum center plate load in thousands of pounds and the final letter indicates the style of truck. Thus, 54-18-M indicates a motor truck, whose wheelbase is 54 in. whose center plate load is 18,000 lb. and whose type is maximum traction, ("maximum traction" is a misnomer, as here applied, and should be "maximum clearance").

The large table below gives an approximate relative comparison of the electric motor-truck classes of Brill, Standard and Baldwin.

In studying truck classifications, these are three essentials: (1) The motors—number per truck—inside or outside hung; (2) The wheelbase; (3) The capacity of the truck. It seems reasonable to formulate from this the following general plan:

The first three classes in the above table could be generally defined by the symbols 1-0-54-36, or preferably 10-54-36. Here the first figure, 1, represents the number of motors per truck. The second figure, 0, is the letter O, meaning outside hung, and represents the location of the motors in the trucks. The figure 54 means inches of wheelbase, and 36 means thousands of pounds load on two trucks. Thus, 1—(motor), O—(outside hung), 54—(inches wheelbase), 36—(thousand pounds maximum carrying capacity of the two trucks), is truck class 10-54-36. For inside hung motor trucks, there could be used, after the number of motors, the figure 1 (or I, meaning inside hung). In order not to confuse the numbers, they should be read thus, Baldwin 21 dash 84 dash 60.

The practical application of this plan would result in the following list of symbols:

Brill	39—E—1	Brill	10—54—40
Standard	O—36	Standard	10—54—36
Baldwin	54—18—M	Baldwin	10—54—36
Brill	76—E—1	Brill	20—58—40
Standard	O—50	Standard	20—54—50
Baldwin	54—18—L	Baldwin	20—54—36
Brill	27—MCB—1	Brill	21—72—46
Standard	C—50	Standard	21—76—50
Baldwin	73—22—K	Baldwin	21—73—44
Brill	27—MCB—2x	Brill	21—72—46
Standard	C—50	Standard	21—76—50
Baldwin	75—25—A	Baldwin	21—75—50
Brill	27—MCB—3x	Brill	21—78—63
Standard	C—60	Standard	21—78—60
Baldwin	84—30—AA	Baldwin	21—84—60

A proper classification would lead eventually to a standardization of axle sizes, which should not have to be specified since every truck should carry with it definite standard axles.

I have endeavored to formulate a classification which is simple, definite and comparative. It is impossible to work out a scheme which is "foolproof" or one which

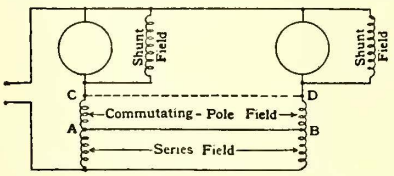
Company	Classification Symbol	Wheel Base, Inches	Center-Plate Load, Pounds	Type City	Location of Motor	Journals Motor and Trailer Inches
Brill	39—E—1	54	20 000	Single Motor	Outside hung	3¾ x 7 and 3 x 6
Standard	O—36	54	18,000	Single Motor	Outside hung	3¾ x 7½ and 3 x 7¼
Baldwin	54—18—M	54	18,000	Single Motor	Outside hung	3¾ x 7 and 3 x 6
				City		
Brill	76—E—1	58	20,000	Double Motor	Outside hung	3¾ x 7
Standard	O—50	54	25,000	Double Motor	Outside hung	3¾ x 7¾
Baldwin	54—18—L	54	18,000	Double Motor	Outside hung	3¾ x 7
				Suburban		
Brill	27—MCB—1	72	23,000	Double Motor	Inside hung	3¾ x 7
Standard	C—50	76	25,000	Double Motor	Inside hung	3¾ x 7
Baldwin	73—22—K	73	22,000	Double Motor	Inside hung	3¾ x 7
				Interurban		
Brill	27—MCB—2	72	23 000	Double Motor	Inside hung	4¼ x 8
Standard	C—50	76	25,000	Double Motor	Inside hung	3¾ x 7
Baldwin	75—25—A	75	25,000	Double Motor	Inside hung	4¼ x 8
				Interurban		
Brill	27—MCB—3	78	31,500	Double Motor	Inside hung	5 x 9
Standard	C—60	78	30,000	Double Motor	Inside hung	4¼ x 8
Baldwin	84—30—AA	84	30,000	Double Motor	Inside hung	5 x 9

will not admit of exceptions. The proposed plan should, however, be useful in the majority of cases.

If the above classification should be designated "Universal" and if present truck classifications were parenthetically interpreted by equivalent universal classifications, it would enable the manufacturer to know exactly what is wanted and would help the customer to know what he is getting and what he already has.

Parallel Operation of D.C. Generators

It frequently becomes necesary in power houses and substations to operate d.c. generators in parallel, and when commutating pole machines are so used the *Electric Journal* points out that the brushes should be placed on the geometrical neutral and should be shifted only as



PARALLEL OPERATION OF D.C. GENERATORS SHOWING PROPER LOCATION OF EQUALIZER CONNECTION

a temporary emergency measure when parallel operation cannot be obtained in any other way. The commutating-pole winding should not be made to act as a series field, and should be used for the sole purpose of insuring good commutation at all loads. The equalizer connection should be between *A* and *B*, as shown in the accompanying diagram, and not between *C* and *D*.

Pittsburgh Harrow for Distributing Ballast

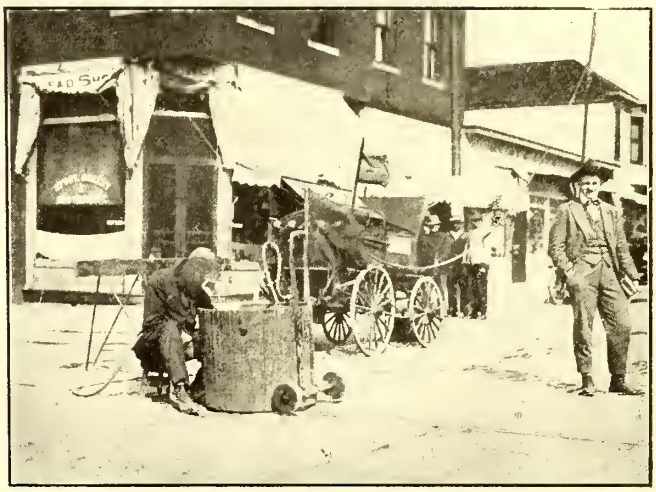
The Pittsburgh Railways, being located in the heart of a great metal working district, has suffered severely from labor shortage. Therefore the way department, in particular, had to set its wits to work to get along with as little human help as possible. One result has been the invention of a harrow for spreading ballast after it is deposited by dump cars. This harrow has been so successful that in one hour with two men it accomplishes as much work as eight men could in one day of hand shoveling.

The harrow, as shown in the illustration, is simply a triangular framework made of 2-in. x 1¼-in. x 12-in. board, with three stiffening ribs of the same material and sufficiently weighted to prevent climbing. To the outer boards are bolted iron teeth, which project 5 in. below the boards. When first used, the harrow was chained to the middle of each truck of the dump car which pulls it. However, experience has shown that it is better to attach it to the cabs, as this enables the harrow to follow curves.

After the dump cars have discharged the ballast, one of these drags the harrow back and forth three or four times over the stretch of 300 ft. to 400 ft. until the ballast is neatly spread; then a steam roller completes the work.

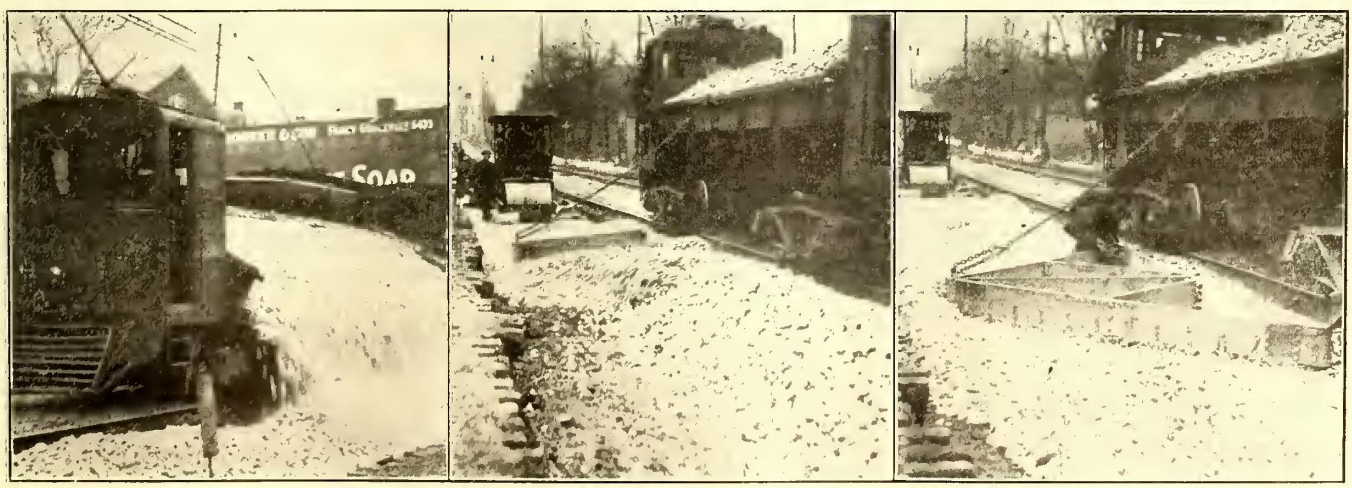
Protecting Public as Well as Operator from Rays of Electric Welder

In Kansas City where the safety-first movement is receiving much attention, the protection of the eyes of the curious public has been taken into consideration in conjunction with the use of the Indianapolis welder in building up worn special work at street intersections. For this purpose a cylindrical guard with an opening on one side through which the operator works is placed on end around the joint being built up. It is mounted on two wheels, so that it can be easily moved from one

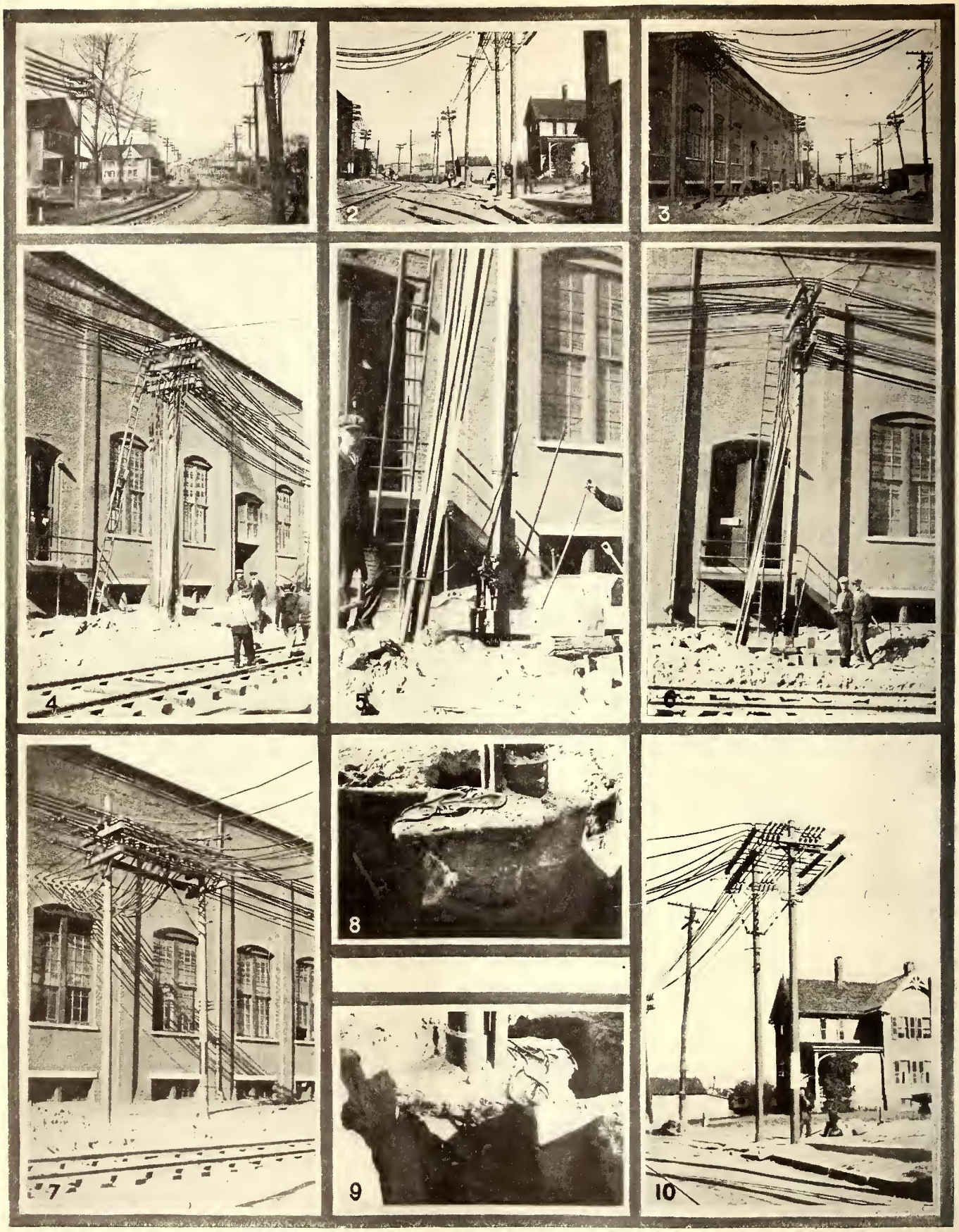


SCREEN FOR SHIELDING EYES OF PASSERS-BY

location to another. Being about 4 ft. high and of the same diameter, it confines the violet rays from the arc so that they are not directly visible to the passers-by. In order to get the direct rays which are injurious to the eye, a person must come so close to the working point that the glare of the arc prevents him from looking injuriously long. The operator is provided with a headgear which protects his eyes and face.



HARROW SPREADING AS MUCH BALLAST IN FIFTEEN MINUTES AS EIGHT MEN COULD SPREAD WITH SHOVELS IN A DAY



View 1.—General view of Seaview Avenue, showing pole lines which had to be moved back 2 ft. on account of widening of the street.

View 2.—Pole leaning toward the street is ready to be shifted to the new curb line.

View 3.—Showing heavy loading of the poles near the power house.

Views 4 and 6.—Pole at power house supporting twenty cables.

View 5.—Pole shown in views 4 and 5 being raised with pole jacks.

View 7.—Two poles which were moved as a unit, using six pole jacks.

Views 8 and 9.—Showing how the concrete foundations were moved with the poles.

View 10.—Terminal poles opposite powerhouse which were moved as one unit.

Moving Live and Heavily Loaded Pole Line, Bridgeport, Conn.

Heavily Loaded Feeder Poles Moved with Pole Jacks

Poles Set in Concrete Shifted Without Interrupting Power When Widening of Street Required Pole Line to Be Moved Back Two Feet

BY GEORGE BUTTRICK
General Line Foreman Connecticut Company, Bridgeport, Conn.

The illustrations on the opposite page show work done on Seaview Avenue, Bridgeport, Conn., where on account of the widening of the street it was necessary to move the poles on both sides back a distance of 2 ft. Fifty-two 35-ft. extra-heavy steel poles set in concrete were moved into their new position without disturbing the cables, cutting off the power or destroying the concrete foundations. The views at the top of page 216 show a general layout of the line and how heavily the poles are loaded with cables. On the left-hand side of the street are nineteen 1,000,000-circ. mil cables and one 300,000-circ. mil cable, while the poles on the right-hand side carry twelve 1,000,000-circ. mil cables.

In moving a pole, a hole 6 ft. deep and about 4 ft. square was dug around the base. Blocks and timbers were then placed around the steel pole and two pole jacks, one on each side, were used to raise the pole with its load of cables at the top and its concrete foundation at the bottom. A 2-in. plank was then placed underneath and the pole pushed back the required 2 ft. by means of a third jack. This done, the hole was filled in and tamped in the usual manner.

Views 4, 5 and 6 show a pole at the side of the power station which was loaded with eleven 1,000,000-circ. mil cables and one 300,000-circ. mil cable, all carrying full railway voltage while being moved, and also eight 1,000,000-circ. mil negative cables which dead-end and run down the side of the pole in iron pipes leading into the power station. This entire load was held up with two pole jacks while a third jack was used to push it into the new position. Views 8 and 9 show the mass of concrete at the base of the pole. It was necessary to cut the negative cables in the ground and to splice in 2-ft. lengths of cable after the pole was moved.

The two poles shown in view 7 carry nineteen 1,000,000-circ. mil cables, one 300,000-circ. mil cable and the feeder taps, thus making the heaviest two poles of the entire job. These poles were moved together, concrete foundations and all, using four pole jacks for lifting and two for pushing the poles into their new location. View 10 shows two terminal poles on the opposite side of the street which were moved together in a similar way, using six pole jacks.

The work of moving the fifty-two poles was completed in twenty days with a force of five linemen, three groundmen and one foreman, at a cost of $10.25 per pole, not including the cost of pulling up the feeders and adjusting the slack.

Wood Block Pavement

Reports compiled by the various lumber associations show that the year 1916 marked the completion of a total of 25,000,000 sq. yd. of wooden block pavement in the United States. The use of this pavement has grown immensely in the last few years, especially in view of the discovery that it is more clinging to the automobile wheel than most other forms of pavement. The wooden block is being put in, in preference to other forms of pavement in the Middle West, in spite of the fact that its cost is greater, a slight degree in some places and as much as 50 per cent higher in other localities farther from the forests. The best estimates show that during 1916 approximately 2,500,000 sq. yd. of wood block pavement was laid. New Haven, Conn.; Detroit, Mich.; Minneapolis, Minn.; St. Paul, Minn., and Kansas City, Mo., laid more than 100,000 sq. yd. of it. About 1,000,000 sq. yd. of block were laid in factories during the year, among which was a contract for 30,000 yd. for the General Electric Company, Fort Wayne, Ind., plant.

Press or Shrink Fit Necessary in Putting on Pinions

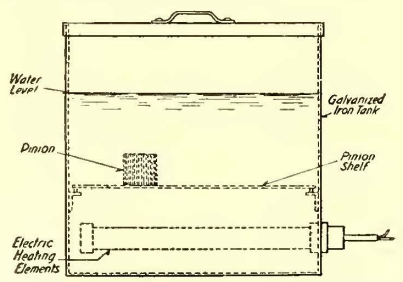
Key Will Not Drive Pinion if Care Is Used and Proper Methods Followed in Doing the Work

BY G. KRONFELD
Railway Department Westinghouse Electric & Manufacturing Company

Simply shoving on a pinion and tightening up the nut is not a satisfactory way of providing against loose pinions. Pinions should drive their gears through the press fit or shrink fit on the shaft and not through the key. The key acts merely as a safety device should the pinion accidentally loosen. The desired fit for the pinion can be had by heating or by pressing.

Before the application of a pinion on a tapered shaft the following precautions should be taken. See that the shaft is clean and free from burrs or swellings, and that the pinion bore is clean and free from burrs. The fit of the pinion bore should be in contact with at least three-quarters of the surface of the taper fit on the shaft. This can be checked by rubbing thin lamp black and oil on the pinion bore and fitting it on the shaft. The pinions should then be put on the shaft cold to make sure that the keyway in the pinion is the proper size for the key mounted on the shaft, and that the pinion does not ride or bind on the top and sides of the key and will not ride the key when pressed further on. The keyway on the pinion can be 0.002 in. larger, but not less than the key.

Pinions can be pressed cold onto the shaft with pressures of from 12 to 25 tons for pinions up to 125 hp., and 40 to 80 tons for pinions transmitting 125 hp. or over. Pinions with bores up to 3 in. that are pressed



ELECTRICALLY HEATED WATER TANK FOR PINIONS

on cold should advance on the shaft approximately 1/32 in.; those with 3-in. to 4-in. bores, 3/64 in.; and those with 4-in. to 5.5-in. bores, 1/16 in. This distance is measured from the point where the pinion is seated firmly on the shaft before pressing.

When shrinking on pinions for motors up to 125 hp. they should be heated in boiling water. When the bore is 3 in. or less they should be kept in the water for thirty minutes, and those with 3-in. or larger bore for sixty minutes. They should then be tapped on the shaft with a 6 or 8 lb. sledge hammer using a wooden or copper buffer. This sledging is not to get a driving fit, but to make sure that the pinion is home, and well seated.

To prevent rusting and to insure a clean surface at the fit, washing soda should be added to the water in the proportion of ¼ lb. of soda to 5 gal. of water. A convenient tank for heating pinions in water is shown in the accompanying illustration.

Pinions for motors over 125 hp. should be heated with a gas flame applied in the bore of the pinion in such a

manner as not to touch the teeth of the pinion as this might affect the temper. The flame should be so regulated as to take forty-five to seventy-five minutes to bring the pinion to a temperature of 257 to 302 deg. Fahr. The temperature can be measured by placing the bulb of a thermometer against the pinion between the teeth. The surface of the pinion where the bulb touches it must be made perfectly clean by rubbing with emery cloth. It is also important to protect the exposed part of the thermometer by covering it with asbestos cloth so the flame cannot touch the thermometer. When the pinion has reached the correct temperature the pinion is put on the shaft in the same manner as given for pinions for motors up to 125 hp.

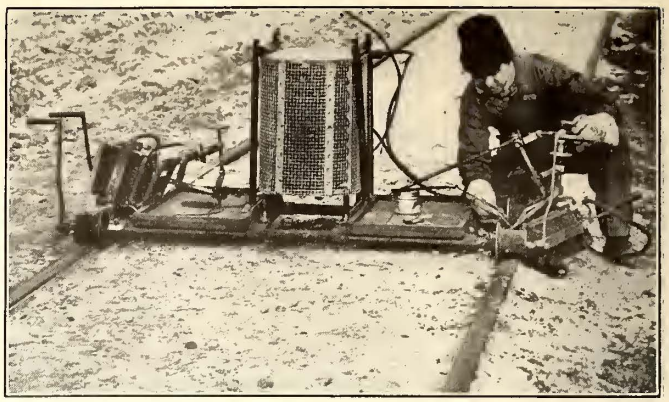
Pinions put on after boiling in water will hold when cool with a pressure of from 12 to 25 tons, and those heated above 257 deg. Fahr., but not above 302 deg. Fahr. with a pressure of from 40 to 80 tons, depending on the length of fit of pinion and diameter of bore.

Portable Welder for Track Bonding

In order to provide a means of installing electrically welded bonds, which would be within the economic possibilities of every railway, however small, the Electric Railway Improvement Company, Cleveland, Ohio, has developed a portable welder to supplement its bonding car. This apparatus is extremely simple, consisting merely of a resistance element weighing about 200 lb., and an electric furnace weighing 65 lb. The function of the outfit is to make possible the utilization of the current from the trolley for welding the bonds onto the rail with the smallest possible apparatus.

By the use of this outfit an electrically welded bond is obtained with a contact having an initial high conductivity and one which it is claimed will not depreciate on account of the elements, and the like. In obtaining this union between the bond and the rail, neither an arc nor a flame strikes the bond or rail, thus the danger of injury to the bond, rail and eyes is avoided. Instead, a heated block of graphite presses against the bond terminal and produces a weld in a way similar to that used with the present Erico bonding cars.

The apparatus is held in position for installing a bond by a yoke which sets over the head of the rail and a chain and hook fastened to the opposite rail. This holds it in a tilted position so that a part of its weight presses against the bond. Two hand wheels on the frame work are provided to adjust the tilt and vertical position of the furnace, so that the surface of the graphite will come into plane contact with the bond terminal.



ONE SCHEME OF MOUNTING PORTABLE APPARATUS

The process is as simple as the apparatus. The trolley circuit through the resistance and furnace to the rail is completed by closing the 200-amp. circuit breaker mounted in the center of the rheostat and controlled from the handle at the bottom. The regulation of the welding is obtained by adjusting the position of the electrode and by the use also of five points on the rheostat for this purpose. A current of from 60 to 125 amp. is used in making a weld, and a separate weld is made for each terminal of a bond, just as with the Erico bonding car. The time required per weld is about one minute. By use of the portable welder, it is claimed that a 500,000 or 600,000 circ. mil bond may be installed.

The rheostat contains approximately 4 ohms resistance, and its dimensions are 15 in. x 20 in. x 24 in. The furnace measures 6 in. x 8 in. x 8 in. The two pieces of the apparatus may be handled separately, or mounted on some such car as that shown in one of the accompanying illustrations. The rheostat is equipped with handles which are hinged so that they fall down out of the way when not in use. Handles are also provided on the four-wheeled larry shown and the whole apparatus can be lifted off the track by two men. When mounted on the larry, a furnace may be carried on either side, one for each rail, to save time in moving about.

This portable welder will operate with any voltage, it is claimed, from 150 to 600 volts, the variation being taken care of by means of the several taps off the rheostat. It meets the needs of the small road desiring welded bonds, as it avoids the expense of the heavy investment in the bonding car, and it also finds a special field of usefulness on the larger property on track where traffic is frequent and cannot be suspended.

PORTABLE ELECTRIC WELDER IN USE UNMOUNTED

London Letter

London Enters on Safety Campaign—Courses of Instruction in Safety Work Contemplated

(From Our Regular Correspondent)

A safety first campaign has been inaugurated in London. An important conference was convened by H. E. Blain, operating manager of the London General Omnibus Company, in order to discuss this question in relation to street traffic, and to devise some means of reducing the number of accidents, which since the introduction of restricted lighting have increased steadily. Representatives of forty-four local authorities in the metropolitan area attended, besides numerous other bodies and associations. In opening the proceedings, Mr. Blain stated that he was connected with companies which conveyed 971,000,000 passengers a year. In the first nine months of 1914, fatal street accidents in London amounted to 411, and that number had grown to 577 for the corresponding period of 1916. The street accidents of all descriptions in the latter period amounted to 34,575. By legends on omnibuses and advertisements displayed in railway stations, his company had endeavored to direct the attention of the public to safety first. As a result of the campaign among their own employees and the general public, the number of accidents in which the omnibuses of the company were involved had been reduced by no less than 25 per cent as compared with the previous year. In the letter convening the meeting, it was proposed that there should be:

1. Courses of instruction for traffic and transport employees.
2. The organization of street traffic with a view to greater public safety and efficiency.
3. The preparation of schemes with regard to street refugees, "safety" notices on lamps, etc., and for the education of the public, and to arrange effective publicity: (a) Through the press, (b) by poster advertisement, (c) by pictorial and other educational means for children, (d) by cinematograph films in picture theaters, (e) by a safety first exhibition to which the public would have free admission, etc.
4. The formation of an adequate organization to achieve these objects, and the creation of a fund for the purpose of providing the necessary income.

Co-operation Needed

Mr. Blain referred in turn to most of these suggestions, and gave reasons why each of them would help the cause. He stated, in conclusion, that financial contributions would not be required, but that co-operation was what was needed. The Mayor of Westminster afterward moved the first resolution:—"That this conference approves of the organization of a safety first campaign in the metropolitan area." This was seconded by W. Joynson-Hicks, M. P., chairman of the Automobile Association. The Mayor of Deptford moved: "That a London safety first campaign council be now elected, with power to co-opt additional members, to establish an adequate organization, and to take all necessary steps, by the appointment of committees and any other means to bring the scheme into prompt operation." H. Gordon Selfridge of Selfridge & Company, seconded this motion. Mr. Blain then suggested a basis for the council something on the following lines: Two representatives of each local authority, one a public representative and one an officer, a representative of each tramway and omnibus undertaking, a representative of each association, a representative of the railway companies having street goods vans, etc., a representative of the Metropolitan Police, a representative of the City of London Police, a representative of the motor cab industry, and several representatives of private firms. On the motion of the chairman of the Marylebone electric supply committee, it was agreed that the following should act as honorary secretaries pro tem of the new council: H. E. Blain, representing the traffic authorities; A. P. Johnson, town clerk of Hampstead, representing the civic authorities; and A. E. Cave, editor of *Municipal Journal*, representing publicity interests. In reply to a question, Mr. Blain said that the clerk of the London County Council had written that while the Council was in sympathy with the object in view, it felt diffidence as an executive body in sending representatives.

Avoidance of Accidents

Mr. Dalrymple, general manager of the Glasgow Corporation tramways, has addressed a memorandum to the members of the traffic staff, in which he makes a number of suggestions for the avoidance of accidents. He states that for some months he has been much concerned at the increasing number of accidents. Many of the staff are new to the service, while all are working under trying conditions. He is satisfied, however, that in many respects the staff could carry out their work with greater efficiency and with more satisfaction both to themselves and to the department. On both drivers and conductors he impresses the absolute necessity of taking greater care, and submits to them the following instructions: Do not, under any circumstances, run your car ahead of time. Do not run your car past stopping places when people are standing there. Do not start your car until you are absolutely certain that no one is entering or leaving. Do not ring the bell until every one is on or every one is off. Do not put your hand, when ringing the bell, in front of a passenger's face. Do not quarrel with passengers. Do not lose your temper with passengers, even under provocation. "So far as accidents are concerned," Mr. Dalrymple adds, "there are many circumstances conspiring against us at the present time. There is, of course, the inexperience of many of the staff. There is the overcrowding of cars. There is the darkening order. There is the boy in charge of the horse and cart. There is the general carelessness in the street, both on the part of pedestrians and of those in charge of vehicles. To the 'conductresses' I would say: 'Do not imagine that you know all your duties after being a week on the cars. Do not carry out your work as if you meant to leave the job to-morrow.' To the 'motresses' I would say: 'Go warily. Take plenty of time. Do not put on a notch of power until you know that the road is clear.' I should like to say to the women generally that in a short time we shall be losing more men. These men must go to fight for those who must stay at home. It is up to you to run the cars—indeed, to run the country. I should like every woman to enter the motor school."

Strike in Salford

Salford was recently without any tramway service for two days, owing to a strike of drivers and conductors against the employment of a number of women inspectors. After negotiations, however, the men accepted the tramways committee's suggestion that the matter in dispute be referred to arbitration by the committee on production, and that, pending the decision of the arbitrators, the women inspectors should be withdrawn from the cars. The men agreed to report for work and service was resumed.

The Nottinghamshire & Derbyshire Tramways has deposited a bill for introduction into Parliament next session for authority to take over the tramway undertaking of the Corporation of Ilkeston. The purchase price has been agreed at £28,150, which is to be paid by instalments on March 1 in each year, after the date of transfer, which has been fixed to date as from Sept. 30, 1916.

Lease Offer Accepted

The tramway committee of the Edinburgh Town Council has unanimously decided to recommend the town council to accept the offer of the lessees of the Edinburgh Tramways to sell the rolling stock, cables, and other plant to the corporation for £50,000. A sub-committee has been appointed to communicate with the Admiralty to ascertain whether there is present or prospective need for further transport facilities between Edinburgh and South Queensferry and Rosyth, and, if so, what these facilities should be, and what assistance might be available to the corporation in the event of facilities being provided.

The directors of the Dublin United Tramways (1896) have recommended the payment of a dividend of 6 per cent per annum, less tax, on the preference shares, and a final dividend of 5 per cent, less tax, on the ordinary shares for the half year ended Dec. 31, this being the same rate of distribution as at the corresponding period last year. The amount of £20,000 is set aside toward the renewal of rails, and £7,000 toward reserve and renewal fund. The sum of £13,359 is carried forward.

A. C. S.

News of Electric Railways

Financial and Corporate | Traffic and Transportation | Personal Mention | Construction News

Albany Company Upheld

Board of Arbitration Decides That the Case of Employee Discharged for Violation of Rules Was Adjudicated Fairly

That the case of Michael J. Hurley, motorman, was adjudicated fairly by officials of the United Traction Company, Albany, N. Y., and that Sec. 6 of the agreement between the company and its employees was not violated in handling the case, are the findings of the board of arbitrators which has been investigating the controversy that brought on the strike in Albany, Troy, Cohoes and Watervliet last October. The arbitrators were Lynn J. Arnold and William E. Woollard of Albany, and Mayor Cornelius F. Burns of Troy. They announced their decision on Jan. 25. In appended remarks, Judge Arnold and Judge Woollard also make this statement:

No Necessity for Strike

"There was absolutely no necessity for a strike. The calling of the strike was unwise. It caused great inconvenience to the public. If the trivial differences could not have been settled by conferences between the parties directly interested they should have been settled by arbitration before calling a strike. Public service corporations and their employees must remember that they are not the only parties in interest. There is a third party to be considered, the public."

The findings as formally announced were:

"That Sec. 6 of the agreement between the parties was not violated in handling the case of Motorman Hurley.

"That the case of Motorman Hurley was adjudicated fairly by the officials of the company."

History of Case

The case was one involving the matter of discipline. All southbound interurban cars on the Albany-Troy line of the company are required by the company's regulations to come to a full stop (safety stop) at what is known as Garbrance Lane, a quiet well-traveled road crossing the tracks of the company and one "blind" to cars approaching from the north. For some time previous to Motorman Hurley's discharge the company had received a number of complaints of southbound cars running by this point without stopping as prescribed by the company's regulations, thus resulting in one automobile with three occupants being struck and the machine badly damaged. There were also numerous minor escapes. The situation became so bad that upon proof of Hurley's deliberate violation of the rule, he was discharged by the superintendent of transportation of the company. This led to the strike. While Mr. Burns, representing the employees on the board of arbitration, in his dissenting opinion contends that C. F. Hewitt, general manager of the company, acted in a summary manner in handling the Hurley case on appeal, Mr. Hewitt actually spent the afternoons of two days listening to the defence. As the arbitrators pointed out Hurley was actually discharged by the superintendent of transportation. His appearance before Mr. Hewitt in appeal was simply a review of the case.

The strike order went into effect in Albany early in the morning of Monday, Oct. 2. More than 800 men walked out and tied up all lines of the company in Albany and Rensselaer. Early the next morning, about 700 men employed on the lines in Troy joined in a sympathetic strike, tying up the lines in that city, Cohoes, Watervliet and Waterford. The arbitration agreement brought the strike to a settlement about noon on Wednesday, Oct. 4. The men returned to work as soon as cars could be prepared, and normal traffic was resumed about the middle of the afternoon.

$2,251,446 to Be Spent in Kansas City

This Sum Called for in the Budget of the Kansas City Railways for Track Extensions and Rehabilitation Work in 1917

The budget of the Kansas City (Mo.) Railways calls for the sum of $2,251,446 to be spent on track extensions and rehabilitation work in 1917. This sum will be apportioned as follows: way and structures, $1,303,146; equipment, $594,300; power, $354,000. The company plans the construction of 9.76 miles of extensions this year in Missouri, exclusive of special work of which there will be approximately 1 mile, bringing the total to 10.76 miles. This work, as planned, will cost $572,796.

In addition, the annual budget provides for $241,578 to be spent in rehabilitation work. This work is to be done on Tenth Street, Twenty-seventh Street, Prospect Avenue, Eighteenth Street, St. John Avenue, Belleview Avenue, Independence Avenue, Ninth Street, McGee Street, State Line, Forty-first Street, The Paseo extension, Swope Park and Hardesty Avenue.

Many renewals of special work are to be made at a total cost of $64,557, while it is planned to weld a total of 1610 joints by the electric welding process. The cost of this work will be $19,700. Welds will be made on Brooklyn Avenue, Twelfth Street, Fifteenth Street, Troost Avenue, Grand Avenue, Belleview Avenue, Ninth Street and Summit Street.

For general track repairs the sum of $143,722 is set aside. In this work, a total of 85,818 ft. of repair work is provided for on thirty-five streets.

Among the miscellaneous items provided for in the budget at a total cost of $89,700 are the following: Concrete covering on Main Street viaduct, $7,000; new asphalt plant, $21,000; two Indianapolis welders, $1,200; one concrete mixer, $2,000; track tools, $1,000 and rail not under contract, $57,500.

For general maintenance work, $185,000 is provided.

Toward the close of the year it is proposed to purchase twenty-five additional cars, the cost of which will approximate $150,000. It is also probable coasting clocks or recorders will be installed on the cars.

Progress on East Bay Franchises

Rapid progress is being made in aid of the efforts to accomplish a re-adjustment and re-settlement of the franchise relations of the San Francisco-Oakland Terminal Railways, Oakland, Cal., with the East Bay communities. Within the last few weeks the city of Alameda has adopted a charter containing re-settlement provisions, substantially similar to those of Oakland, which provide for an indeterminate grant as noted in the Electric Railway Journal of Nov. 18, page 1071. The Board of Freeholders of Richmond has adopted the same provisions as are found in the Alameda charter, and the new charter of Richmond containing these provisions will be submitted to the electors for their approval in April. The amendments to the Oakland charter and to the charter of Berkeley have been introduced in both houses of the State Legislature, and early action is expected on them. Thus in a few months, amendments to the charters of Oakland, Berkeley, Alameda and Richmond have been proposed, in three instances have received the approval of the people, and may be expected to be ratified at this session of the Legislature. When this shall have been accomplished, these communities will be authorized by law to negotiate with the company for the surrender of its existing franchises and the acceptance by it of a re-settlement franchise.

Toledo Marking Time

Mr. Doherty Unable to Resume Franchise Negotiations for a While

Councilman Gus A. Hein introduced an ordinance in the Council of Toledo, Ohio, on Jan. 15, providing for the payment of rental for the use of the streets at the rate of $185 a day by the Toledo Railways & Light Company for the first year after its franchise expired, this amount to be increased 3 per cent each succeeding year. It further provides that the money thus received be placed in a special street improvement fund to be used to pave between the company's tracks, where pavements are repaired or new pavements are laid.

Because of the uncertainty in regard to a franchise, the company has refused to assume the expense of paving its right-of-way since the old franchise expired. Councilman Hein claims that it is now indebted to the city in the sum of $154,000 for paving and that the city cannot continue to advance funds for this purpose.

Henry L. Doherty, chairman of the board of the company, has notified the street railway commission that it will be some time before he will be able to resume work with it in formulating a new arrangement for the street railway. His other extensive utility interests demand his attention at the present time.

Pays Under Protest

Puget Sound Company Protests Gross Earnings Tax—City Moves to Enforce Franchise Provisions

The Puget Sound Traction, Light & Power Company, Seattle, Wash., recently offered $64,387, under protest, to the city of Seattle. This sum represents 2 per cent of the gross earnings of the company in 1916. The company stipulated that the payment is made only with the understanding that the city lives up to an agreement reached at a conference in 1915, by which the company was to pay a gross income tax under protest, and to plank rights-of-way, instead of paving them, pending a hearing of the Public Service Commission on a petition to be relieved of these franchise obligations. In the event that the city does not agree to this, and insists on instituting suit to require the company to pave its right-of-way, the tender of the gross earnings tax is to be withdrawn. The amount submitted represents a percentage on gross earnings of $2,900,831. As compared with 1915, the earnings of the company showed an increase of $140,875. Comparative figures of the 2 per cent gross income tax paid since 1912 follow: 1916 (amount offered under protest), $64,387; 1915, $51,581; 1914, $72,954; 1913, $71,724; 1912, $59,529. The matter of acceptance of the sum tendered was referred by the Council to the franchise and the finance committees, and was in turn referred to Hugh M. Caldwell, the Corporation Counsel, for an early report.

The city of Seattle will institute suit against the Puget Sound Traction, Light & Power Company to enforce that provision of the company's street railway franchise which requires the paving of right-of-way with the same material and at the same time the city paves the remainder of its streets. A. L. Valentine, superintendent of public utilities, recently recommended to the board of public works that certification be made to the legal department that the company has failed to pave First Avenue South, between Stacy and Horton Streets, and the recommendation was approved by the board. Since the company petitioned the Public Service Commission to be relieved of certain of its franchise obligations, it has refused to do other than to plank right-of-way until the commission disposes of its petition. Hugh M. Caldwell, corporation counsel, recently held that the company should be required to comply with its franchise obligations, until a competent court relieves it of such obligations. His announcement that he was ready to begin suit against the company to enforce its franchise obligations led to the designation of a particular street by the Board of Public Works, on which the litigation will be based.

Conference Asked in Minneapolis

President Lowry of Twin City Company Seeks to Discuss Valuation and Earnings with City

Horace Lowry, president of the Twin City Rapid Transit Company, Minneapolis, Minn., has written to the special committee of the City Council on street railway matters and extensions requesting to be permitted to appear before the committee to discuss the questions of valuations and earnings of the Minneapolis Street Railway. His letter follows:

"In view of the evident misconception back of various statements relative to the valuation of the property of the Minneapolis Street Railway and its net earnings, we feel at the present time we should advise you of our desire to appear before your committee at a hearing to be held at an early date for the purpose of considering and discussing these matters with your committee.

"We do not expect the city to agree upon a valuation under the proposed franchise that will not from the very outset yield a substantial net surplus to be participated in by the city which should rapidly increase from year to year as the city grows and the street railway system is extended to meet such growth. This expectation is amply justified by recent operations of the company.

"We suggest that new lines and extensions of existing lines to be constructed in the immediate future should be considered as a whole, in order that such new lines and extensions should become a part of the best comprehensive transportation system for the city at large. We strongly recommend this plan for a specific program in dealing with a problem of such scope, believing that local interests will not suffer thereby and that the city as a whole will be greatly benefited.

"It is our desire to co-operate with your committee and other bodies, giving consideration to these questions and others involved in a new franchise, to the end that Minneapolis may be provided with a street railway system which will give the best possible public service."

Up to Jan. 20 no date had been set for a hearing.

On that date, however, the Council committee on street railway matters and extensions did decide to begin on Jan. 29 spending each afternoon of the week going over the route of the proposed street railway extensions. It was announced that before these inspections were begun there would be a conference between the chairman of the committee, the city attorney and city engineer and the head of the street railway so that the company's conception of what extensions are reasonable may be obtained and put before the committee.

Wages Adjusted on Lockport and Empire Lines

The question of wages for the employees of the Buffalo, Lockport & Rochester Railway, Rochester, N. Y., was opened at the request of the men that, effective Oct. 1, 1916, their contract be revised with reference to rates of pay to cover 35 cents an hour in passenger service and 36 cents an hour in freight service. After a series of conferences the company voluntarily granted an increase of 1 cent an hour in passenger and freight service, the increase to be effective as of Oct. 1, 1916, making the rate 31 cents an hour in passenger service and 35 cents an hour in freight service.

Under date of Dec. 23, the company and the representatives of the Brotherhood of Locomotive Engineers and Order of Railway Conductors, executed an agreement to arbitrate the matter of an additional increase of 1 cent an hour in both classes of service. On Jan. 8, 1917, the board of arbitration awarded the men an additional 1 cent an hour in passenger service, with no increase in freight service, making the rates of wages, retroactive to Oct. 1, 1916, 32 cents an hour in passenger service and 35 cents an hour in freight service. The wage scale as just noted applies also on the Empire United Railways, Inc., Syracuse, except that the increase, voluntarily and by award of the board of arbitration, is retroactive to May 1, 1916. These increases are according to agreement to remain in force and effect until May 1, 1917.

Cincinnati Agreement Discussed

The proposed agreement between the Cincinnati (Ohio) Traction Company and the city, providing for the operation of the municipal loop by the company, was discussed at a recent conference of members of the Rapid Transit Commission and a number of officials and business men. Both Walter A. Draper, vice-president of the company, and E. W. Edwards, chairman of the commission, agreed to do everything possible to reach an agreement, so that it may be submitted to a referendum vote at the regular election on April 17. Mr. Draper objected to fixing a 5-cent fare to points outside of the city, as complications would result if it should be decided in the future to extend the loop to distant suburbs. The Ohio Traction Company owns $2,000,000 of capital stock of the Cincinnati Traction Company and it was suggested that matters would be simplified by the consolidation of the companies. Mr. Draper said that the company would not profit through the construction of the loop, inasmuch as the possible patrons of the loop are already patrons of the company.

Cleveland Service Considered

Mayor Demands Better Service, but Insists That 3-Cent Fare Shall Continue

In an address before the Tippecanoe Club on the evening of Jan. 29, Mayor Harry L. Davis of Cleveland, Ohio, in announcing his candidacy for a second term, arraigned the Cleveland Railway for the character of service given for some time and declared that it must make an improvement or be refused a renewal of franchise in 1919. At the same time he insisted that the 3-cent fare be maintained.

President Stanley of the company had previously been quoted as saying a settlement of the operating and maintenance deficits would be demanded at an early date. The operating deficit is $195,075 and the maintenance overdraft or deficit, $268,918. On Jan. 1, 1917, the interest fund was $545,438. The scrapping of the Cedar Avenue power house will add $20,000 a month to the monthly payments to be made from the maintenance fund.

It is contended that 120 more cars would be needed in constant operation to carry the increased traffic without undue crowding. The city has supervision over this and could have made it possible to take care of the traffic. To do so, however, would have increased the operating expense and might have endangered the fare. Much complaint has been made in regard to crowded cars, but the company is unable to relieve the situation because of the control over service exercised by the city.

At the meeting of the City Council on Jan. 29 Fielder Sanders, street railway commissioner, asked that a $5,000,000 bond issue for a subway terminal for the street railway lines be submitted to the voters at the next election. He intimated that he would oppose the plan of having the Cleveland Railway build the terminal, but desires the company to operate it under lease after the city builds it.

COMMISSIONER SANDERS' VIEW

Mr. Sanders expressed the opinion recently that if the Cleveland Railway furnished the service the City Council is demanding just now, the fare would have to be advanced to the maximum allowed by the Tayler franchise. The Council had instructed Mr. Sanders to have traffic checked on several routes with the idea of demanding an improvement in the service and he gave expression to the opinion about fares in his reply. The increase in the traffic during the last year has been 10 per cent, whereas the normal increase is only 5 per cent. The company made arrangements for the latter increase, but the abnormal use of the cars has resulted in crowding. Mr. Sanders declared that the same conditions exist in other cities, particularly Boston and Philadelphia, which cities he visited recently.

Mr. Sanders put checkers at work on the St. Clair Avenue line on Jan. 22. Improvements in schedules have been made on the line two or three times within the last year, but the Council insisted on another investigation. Mr. Sanders was also instructed to revise schedules on the lines affected by the construction of the underground approaches to the Superior-Detroit bridge, in order that blockades caused by accidents and derailed cars may be avoided. Cars are operated over temporary tracks near the bridge on both sides of the river and some trouble has already been occasioned from this arrangement.

Strike Prevention Bill Introduced

A bill providing for State regulation of employment with a public service corporation was introduced on Feb. 1 by Assemblyman Schuyler M. Meyer of New York. The measure, according to Mr. Meyer, was drafted under the supervision of the New York Chamber of Commerce and has been indorsed by the Chamber of Commerce of the United States and the Merchants' Association. The original plan, as proposed by Henry R. Towne of the Merchants' Association, was described in the ELECTRIC RAILWAY JOURNAL of Sept. 30, 1916, page 692.

The bill provides that public service corporations and their employees must enter into reciprocal contracts of employment for a period of one to three years after a short period of probation, and that the corporations must not dismiss employees nor employees withdraw from service except for causes explicitly stated in the bill.

Under its provisions a public service corporation may dismiss an employee for misconduct defined in the bill as proper cause for discharge, for lack of employment due to slack business upon thirty days' notice, or in case of immediate discharge upon the payment of two weeks' salary; also for disability of the employee, with the proviso that when this is not due to negligence on his part he shall receive thirty days' wages on being dismissed. Discrimination because of membership in a labor organization is forbidden.

Employees may terminate their service for valid family reasons, personal necessity or disqualifying illness, certified by a board of award, or when no cause is given on thirty days' notice to the corporation and with its consent.

Hugh MacRae to Retire

Hugh MacRae, of Hugh MacRae & Company, Wilmington, N. C., president of the Tidewater Power Company, has concluded to dispose of his interest in the company. This decision is understood to have grown indirectly out of the situation which was created last July when the motormen and conductors of the power company went on strike. The men on returning to work signed an agreement to abide at all times by the decisions of a citizens' committee of 100 which pledged its support to Mr. MacRae. Mr. MacRae's opinion evidently is that the unqualified public support to which he felt himself entitled is lacking, for in a recent communication to the Council he said:

"For some time it has seemed clear to me that certain influences which are frequently brought to bear on individual members of every Council, and are often made to appear as expressing public sentiment, spring from sources which are antagonistic to me personally. In order, therefore, to remove as far as possible these obstacles and so that the way may be kept free for your co-operation with the company along lines that will bring the greatest good in the development of the community, I have concluded at some time in the near future to dispose of my interest in the Tidewater Power Company. It seems best to make the announcement at this time when the company is not under pressure from any direction, and everything as far as I know is harmonious. I would not care to arrive at a decision at any time when it would appear to be retiring under an attack."

In a letter to Rev. Thomas P. Noe, chairman of the committee of 100 which in July inquired into the affairs of the company, Mr. MacRae said in part:

"I appreciate most highly the findings of your committee, but personally I do not feel assured of the physical strength or the political influence necessary to carry out the different steps which would be essential to the protective program recommended by your committee.

"It is my belief that perhaps four-fifths of the citizens of Wilmington would fully concur in the report of your committee; but the other fifth would in opposition appear to be more active. I have decided that it would be best at some suitable time in the near future to dispose of my interests in the Tidewater Power Company, feeling that the policies which I hoped to carry out would not be wise ones under the present circumstances."

W. S. Barstow Management Association

The W. S. Barstow Management Association has been incorporated for the purpose of supervising the management of the subsidiary properties of the Eastern Power & Light Corporation and the General Gas & Electric Company. The directors of the new company are W. S. Barstow, J. B. Taylor, L. H. Tyng, E. Lovett West, O. Clement Swenson, E. M. Gilbert and Thomas Cheyne. A meeting of the association will be held shortly to organize and elect officers. This company will have managerial supervision over the following companies: Reading Transit & Light Company and Metropolitan Electric Company, Reading, Pa.; Pennsylvania Utilities Company, Eastern Pennsylvania Power Company and Easton Gas Works, Easton, Pa.; Binghamton Light, Heat & Power Company, Binghamton, N. Y.; Sayre (N. Y.) Electric Company; New Jersey Power & Light Company, Dover, N. J.; Rutland Railway, Light & Power Company, Western Vermont Power & Light Company and Pittsford Power Company, Rutland, Vt.; Claremont Power Company, Claremont Railway & Lighting Company and Colonial Power Company, Claremont, N. H.; Sandusky Gas & Electric Company, Sandusky, Ohio; West Virginia Traction & Electric Company, City & Suburban Gas Company and City Railway, Wheeling, W. Va.; Northwestern Ohio Railway & Power Company, Port Clinton, Ohio; Vincennes Electric Company and City Lighting Company, Vincennes, Ind.

The combined annual gross earnings of the foregoing properties in 1916 were approximately $7,000,000. W. S. Barstow & Company, Inc., New York, N. Y., who have heretofore supervised the management of the subsidiary properties, will continue in general executive charge and also control their financial operations.

Strike at Hamilton.—Motormen and conductors on the local lines of the Ohio Electric Railway in Hamilton are out on a strike. New men have been employed and some of the cars have been kept in operation.

Eight-Hour Bill in Ohio.—Representative Henry Ott has introduced a bill in the Legislature of Ohio limiting the workday of motormen and conductors on both street and interurban railways to eight hours. A similar bill failed before the previous Legislature.

Fort Smith Fare Bill Killed.—The bill introduced in the Arkansas Legislature to regulate street car fares in Fort Smith and Van Buren has been killed by an adverse committee report in the Senate. The bill would have fixed a 5-cent fare for Fort Smith and Van Buren, with 100 tickets for $3.50. It was opposed by the company and the progressive citizens of Fort Smith and vicinity. In addition to fixing a 5-cent fare, the bill required two men as the crew on every car.

New Route into Cleveland.—It is reported that the Cleveland, Painesville & Eastern Railway will sign a contract with the Cleveland & Youngstown Railroad whereby cars of the former will enter Cleveland over the tracks of the Cleveland & Youngstown Railroad and use the new station that is to be built by the Van Sweringen interests. The connection between the roads will probably be made near South Euclid. This will open up an immense tract of land for allotment purposes.

New Rapid Transit Line to Open.—The Interborough Rapid Transit Company under direction of the Public Service Commission for the First District of New York began operation on the new Astoria rapid transit line at noon on Feb. 1. This line is a three-track elevated railroad extending from the Queensboro Bridge Plaza in Long Island City north to Ditmars Avenue, Astoria. Its opening affords relief to a district not now served by any rapid transit line. The new line is three track for its entire distance and express service will be provided in the morning and evening hours. The line has cost in round figures, including track installation and station finish, exclusive of equipment, $1,350,000.

I. C. C. Valuation Methods Criticised.—At a hearing in Washington on Jan. 29 on the findings of the Interstate Commerce Commission in the case of the valuation of the Atlanta, Birmingham & Atlantic and the Texas Midland Railways, counsel for the companies charged that the commission failed to obey the law in making valuations and failed to include a great many items which it should have included. Whether trackage rights of a railroad over connecting lines should be included, and, if so, at what figure, was one of the points debated, counsel for the Texas Midland asserting that 14 miles in the road's main line had been omitted because the road did not own the property outright but merely had leased trackage rights over this stretch.

Canadian Hydro-Radial Lines Approved.—Most of the municipalities along the Canadian shore of Lake Erie between Port Colborne and Bridgeburg, Ont., have approved the plan of guaranteeing bonds for a government-owned hydroelectric radial railway between these two points. Bridgeburg, Fort Erie and Port Colborne, the largest towns along the proposed route, have guaranteed more than $2,000,000 in bonds to pay for the cost of construction. The city of Hamilton, Ont., defeated the proposition for the proposed hydroelectric line between Toronto and the Niagara frontier, but Sir Adam Beck, of the Ontario Hydroelectric Commission, declares this defeat will not have a depressing effect upon the plan as construction work will not be started until after the end of the European war.

Niagara Power Situation Serious.—Owing to the serious shortage of electric power in western New York, due to the embargo placed by the Canadian Government on the exportation of Canadian-Niagara power to American consumers and increased demand for power from American-Niagara generating companies, the International Railway, Buffalo, N. Y., has been forced temporarily to suspend service over its Niagara Falls local lines for several hours a day during the last few weeks. On one occasion the company was without power to operate cars from 6 to 7.45 a. m., and from 3.20 to 5 p. m. The company is taking power from the Niagara Falls Power Company to operate its Niagara Falls local lines, and the Toronto & St. Catharines Railway is supplying power for the Park & River division between Chippawa and Queenstown, Ontario, along the Canadian gorge.

President McCulloch Joins St. Louis Advertising Club.—When Richard McCulloch, president and general manager of the United Railways, St. Louis, Mo., became a member of the Advertising Club of St. Louis recently he placed the company's physical equipment and men at the disposal of the advertising men for use in their night parade at the convention of the Associated Advertising Clubs of the World, which will be held in St. Louis in June. It is planned to make the parade surpass in magnitude and splendor anything ever attempted before in the United States. Many inquiries have been received from advertising clubs in other cities in regard to the parade. Details are now available, and the fact that those who exhibit will be able to have their floats lighted with electricity will provide an ample outlet for settings which could not be produced under other circumstances.

Programs of Association Meetings

New York Electric Railway Association

The quarterly meeting of the New York Electric Railway Association has been arranged for March 2 at the Hotel Astor, New York, N. Y. There will be a business meeting at 10.30 a. m. at the hotel and a dinner at the same place at 7.30 p. m.

New England Railroad Club

A review of steam railroad electrification history will be the feature of the next regular monthly meeting of the New England Railroad Club, which will be held at the Hotel Brunswick, Boston, Mass., on Feb. 13. The principal address will be delivered by Frank H. Shepard, special representative of the Westinghouse Electric & Manufacturing Company, after which moving pictures of the latest installations will be shown by Q. W. Hershey of the heavy traction department of the Westinghouse Company.

Financial and Corporate

Annual Report

British Columbia Electric Railway, Ltd.

The income statement of the British Columbia Electric Railway, Ltd., Vancouver, B. C., for the year ended June 30, 1916, follows:

Income	£258,206
Registration fees, etc.	195
Total	£258,401
Renewals—maintenance	£102,236
Directors' fees	998
Special remuneration to chairman's assistant	1,367
Office rent, salaries, etc.	5,306
Income tax provision	10,000
Trustees' fees	874
Capital amortization fund	2,655
Total	£123,437
Balance	£134,964
Balance brought forward from previous year	6,666
Transfer from reserve fund	70,000
Total	£211,630
Interest on debentures and debenture stock	132,771
Balance	£78,859

The gross income of this company for the year ended June 30, 1916, was only £258,206, as compared with £370,000 for the preceding year and £560,000 for the year ended June 30, 1914—a decrease in the two years since the outbreak of war of more than 50 per cent. This was due mainly to two causes—namely, a reduction in the population of the districts served, owing to the extraordinary proportion of the manhood of the province voluntarily enlisted in the army, and the continuance of the unfair competition of jitneys.

About 35,000 soldiers left British Columbia for overseas service, of whom probably 25,000 were from the company's territory. A further large number of people more or less dependent on them also left, so that the population decreased by fully 30 per cent. It is deemed reasonable, however, to look for an increase in profits on the return of the troops almost as rapid as the decrease was. The stockholders will not get back all at once the dividend formerly received on the deferred ordinary stock, but it is felt that they should again receive a moderate return on the money invested in that stock within a year or two of the end of the war.

Although after Jan. 1 the competition from jitneys was less acute than in the previous year, these cars are still depriving the company of earnings amounting to approximately £70,000 a year. Another serious factor is the large increase in operating costs. During the last fiscal year the shortage of men and the increase in prices of commodities created a difficult situation. These conditions seriously affected the employees, and although the agreement with them still had a few months to run, it was decided to grant an immediate increase of wages. This concession involves an increase in working expenses of more than £20,000 per annum, and is to remain in force until June 30, 1918. During the last year capital expenditures fell off from £175,110 to £26,980.

A more agreeable side of the situation is the fact that during the four months of the current year there was an increase in net earnings over the same period last year of more than £30,000. The improvement commenced in February, and, although varying in amount, was continuous month by month up to and including October, which is the last return received. It is thought that there are grounds to hope that this increase in earnings may continue on a sufficiently large scale to enable the company this year to meet the dividend on the 5 per cent cumulative preference stock without having recourse to the reserve fund. This had to be drawn upon for £70,000 in the last year to permit the payment of £72,000 in dividends on such stock.

B. R. T. Taxes Up 45 Per Cent

Analysis of Six Months' Results Shows Higher Operating Costs, Taxes and Interest

At the annual meeting of stockholders of the Brooklyn (N. Y.) Rapid Transit Company on Jan. 26, President T. P. Williams made a statement explaining the unfavorable showing of the company for the first half of the present fiscal year. It is not customary for the company to submit a report at the annual meeting, but this time it was deemed desirable to acquaint the stockholders with the causes of the showing thus far made.

For the six months ended Dec. 31, 1916, the gross operating revenues of the system were $14,880,669, an increase of $832,224 (5.92 per cent) over the operating revenues of the same period of 1915. The operating expenses were $8,296,634, an increase of $580,024. Of this increase nearly $500,000 was in wages paid to transportation employees. The ratio of operating expenses to revenues was 55.75 per cent as compared with 54.93 per cent for the same period of the preceding year. The net revenue was $6,584,035, an increase of $252,200. Up to this point the comparison is not unfavorable, President Williams said, especially in view of the facts that the unit rate of wages was very materially increased, and that the prices of materials used in operation were also considerably higher.

After deducting taxes and interest, however, the surplus income for the system during these six months was $2,755,684, a falling off of $585,849 from the surplus income of the corresponding six months of 1915. In other words, although gross revenues during the period increased $832,224, the net result was $585,849 less income available for dividends. This showing was caused by the largely increased amounts charged to taxes and interest—taxes showing an increase of $391,206 (45.72 per cent), and interest showing a net increase of $441,312. Notwithstanding these additional burdens the system's net income available for dividends was more than $500,000 in excess of the dividend requirements, at the rate of 6 per cent per annum, for this period.

It is reasonable to suppose, President Williams stated, that the operations for the remaining six months of the fiscal year will make a better relative showing. Part of the increase in wages became effective on Jan. 1, 1916, and appeared in last year's figures. Part of the increased taxes began to be absorbed in March of last year. Additional interest charges (substantially at the present rate) became effective in January a year ago, and are not likely to be materially increased during the current six months. Therefore, if the passenger earnings continue to increase at the present rate, the system ought to show for the final six months of this fiscal year as good results, if not better, than those for the same period of 1916.

What Caused Lower Net Income

In discussing the factors in the showing for the last six months, President Williams continued as follows:

"There will be, I am sure, no dissent among stockholders as to the wisdom or justice of materially increasing the wages of employees. The company has long adhered to the policy of sharing its prosperity with its workers, and the advantage of that policy was conspicuously demonstrated last summer, when our men remained loyal to their work while the employees of practically all the other street railways in Greater New York were disaffected or went on strikes.

"In the matter of taxation, we in common with other property owners and corporations are paying the penalties of increasing expenditures for the support of government. When new taxes are to be levied the first victim is likely to be the public service corporation, notwithstanding the conceded fact that every additional burden thus imposed limits and restricts the ability of the corporation to render public service. By way of increased assessments and new laws, our taxes for the year have been increased nearly $600,000, and they are to-day about 30 per cent of our income remaining after paying operating expenses, rentals and interest.

"The increase in interest charges is due to new rapid

transit properties placed in operation under our recent contracts with the city. Less than one-third of the expenditures which we are required to make under those contracts represents properties yet in operation, and these properties are regarded as the least productive of the new lines. The results of this partial operation, however, have been particularly gratifying. During the six months ended Dec. 31, 1916, the passenger receipts of the New York Consolidated Railroad (the constituent company which operates the rapid transit railroads under contracts with the city) have increased more than 17 per cent, and the indications are that the preliminary estimates of earning capacity will be more than realized when the entire new rapid transit system is in operation. The Broadway-Manhattan subway will, it is likely, be ready for operation during the current year and ought to be distinctly helpful."

Strickland Lines Consolidate

Texas Traction Company and the Southern Traction Company Unite as the Texas Electric Railway

The consolidation of the Texas Traction Company and the Southern Traction Company, Dallas, as the Texas Electric Railway was voted unanimously at a meeting in Dallas on Jan. 31. J. F. Strickland has been elected president of the Texas Electric Railway. There were represented at the meeting 26,820 out of 30,000 shares of stock of the Texas Traction Company and 67,298 out of 70,000 shares of stock of the Southern Traction Company. Final details of the consolidation will be worked out at a meeting in Chicago during the week beginning Feb. 5.

The Texas Electric Railway was chartered in Texas in July, 1916, with a capital stock of $10,500,000, and at the meetings of the stockholders of the Southern Traction Company and the Texas Traction Company held in Dallas on July 18 action of the directors of the company in arranging for the consolidation under the name of the Texas Electric Railway was formally ratified. Circumstances over which the participating companies had no control prevented the carrying out of the deal at that time. It is now reported unofficially that the consolidation just ratified has as its basis substantially the same terms and conditions as the proposed consolidation of last July, which was noted in the ELECTRIC RAILWAY JOURNAL for July 29, 1916.

Atlanta Financing Approved

Two of the Three Petitions of the Affiliated Atlanta Companies Allowed—The Other Under Advisement

The Georgia Railroad Commission on Jan. 24 approved the $459,000 bond issue petitioned by the Georgia Railway & Power Company and the $283,000 bond issue asked by the Georgia Railway & Electric Company. The commission did not act upon the petition of the Georgia Railway & Power Company asking permission to issue $420,000 in scrip or non-interest-bearing notes to pay accumulated dividends upon its first preferred stock. The commission is investigating questions of law and public policy in connection with this petition, and is not expected to announce any decision before the next meeting of the commission, which will be held on Feb. 13.

The petition of the Georgia Railway & Power Company approved by the commission authorizes that company to issue $459,000 par value of first and refunding bonds for the reimbursement of the treasury for funds spent in the period from Jan. 1 to Oct. 31, 1916, for extensions and purchase of new property. These bonds are a part of an issue of $30,000,000 that was approved by the commission in 1914. The expenditures which the present issue is to meet, cover the extension of power lines, the purchase of hydroelectric sites and similar disbursements within the State of Georgia and outside the 7-mile limit of the city of Atlanta.

The petition of the Georgia Railway & Electric Company, which is leased by the Georgia Railway & Power Company, approved by the commission, authorizes that company to issue $283,000 par value of refunding and improvement forty-five-year 5 per cent bonds under a mortgage approved by the commission in 1909. This amount is to reimburse the treasury of the company for money that the company expended for extensions and improvements within the 7-mile limit of the city of Atlanta during the period from Jan. 1 to Oct. 31, 1916.

The original applications of the companies to the commission were referred to at length in the ELECTRIC RAILWAY JOURNAL of Jan. 13, page 92.

Birmingham Railway, Light & Power Company, Birmingham, Ala.—The Supreme Court of Alabama has decided that the Alabama Public Service Commission was within its jurisdiction in ruling that the merger of the Birmingham Railway, Light & Power Company and the Birmingham, Ensley & Bessemer Railroad was consistent with the public interest. The decision is in effect that the Brown bill authorizing the Public Service Commission to approve mergers when consistent with the public interest was constitutional and that the action by the commission in this case was within the provisions of that bill. The commission in the fall of 1916 authorized the substitution of the Birmingham-Tidewater Railway, the entire capital stock of which is owned by the Birmingham Railway, Light & Power Company, for J. D. Kirkpatrick as purchaser of the Birmingham, Ensley & Bessemer Railroad at foreclosure sale. References to the sale of the property under foreclosure and to the subsequent negotiations for turning it over to the Birmingham Railway, Light & Power Company were contained in the ELECTRIC RAILWAY JOURNAL for Jan. 15, April 1 and 8, and Sept. 9, 1916.

Chicago (Ill.) Railways.—Chairman Henry A. Blair of the Chicago Railways has reported to the bankers' syndicate purchasing $1,700,000 of the company's first mortgage bonds that for the twelve months ended Nov. 30, 1916, gross revenues showed a gain of $2,917,148 or 9.2 per cent, while there was an increase in net revenues of $1,555,183 or 14.4 per cent over the twelve months ended Nov. 30, 1915.

Chicago, North Shore & Milwaukee Railroad, Highwood, Ill.—The Public Service Commission of Illinois has authorized the Chicago, North Shore & Milwaukee Railroad to issue $170,000 of equipment gold notes, the proceeds to be used for the purchase of fifteen steel cars.

Columbus Railway, Power & Light Company, Columbus, Ohio.—At the annual meeting of the stockholders of the Columbus Railway, Power & Light Company on Jan. 23, it was decided to increase the number of directors from eleven to fifteen. Norman McD. Crawford of the E. W. Clark Management Corporation was chosen as a member of the board. He has been a vice-president of the company since November, 1916, and will act as president of the company during the absence of President McMeen in California on sick leave.

Columbus, Delaware & Marion Railway, Cincinnati, Ohio.—Eli M. West, receiver of the Columbus, Delaware & Marion Railway, has been ordered by the court not to pay interest on the second mortgage bonds of the company, due on Feb. 1, the interest totaling $23,000. This action was taken in line with a motion by holders of the first mortgage bonds, on which interest was defaulted last November, that no interest be paid on the second mortgage bonds. There are $920,000 of the second mortgage bonds outstanding, and the holders of these are now expected to ask foreclosure and wind up the receivership, which has been in existence for eight years.

Jacksonville (Fla.) Traction Company.—The directors of the Jacksonville Traction Company at their meeting on Jan. 15 did not declare the dividend on the $500,000 of 6 per cent cumulative preferred stock normally payable on Feb. 1. Last August only three-quarters of 1 per cent was paid. According to an official statement the earnings of the company have shown some improvement during the last few weeks, but in the opinion of the board conditions did not warrant any dividend at this time. It is explained that the prosperity of the city depends largely on the export business, which, due to the high rates of shipping brought about by the war, has as yet failed to show substantial improvement. Every effort has been made to reduce the operating expenses without curtailing service or proper

maintenance. It is pointed out that Jacksonville is an important wholesale distributing center, and that a return to normal conditions should improve the earnings of the company.

Middle West Utilities Company, Chicago, Ill.—The Middle West Utilities Company has declared an initial quarterly dividend of one-half of 1 per cent in cash and a semi-annual dividend of 1 per cent in common stock on its common stock, both payable on April 2 to stock of record of March 15. In announcing the dividend policy of the company, Mr. Insull said: "The Middle West Utilities Company is growing rapidly, and the character of its business is such that large amounts of new capital are required, all of which is employed at a return far greater than 4 per cent a year. It has been calculated that a portion of the surplus earnings invested in the property and represented by the common stock dividends, will accomplish the twofold object of lessening the requirements of outside capital, and greatly strengthening the equity behind the company's senior securities and the standing thereof. From the viewpoint of the common stockholder surplus earnings so invested will earn him a larger return than would be prudent to pay in cash for a long time to come. With these objects in view, the board of directors has inaugurated this dividend policy, and naturally expects, from time to time, to disburse larger dividends in common stock as the increase in earnings and surplus may justify.".

Muscatine, Burlington & Southern Railroad, Davenport, Iowa.—The report has been revived that the United Light & Railways Company is considering the purchase of the Muscatine, Burlington & Southern Railroad, formerly the Muscatine North & South Railway, a steam road between Muscatine and Burlington. In April, 1916, officials of the Tri-City Railway & Light Company, which is controlled by the United Light & Railways Company, were approached by officials of the Muscatine North & South Railway relative to the question of power. R. J. Denman, an officer of both the Tri-City Railway & Light Company and the United Light & Railways Company, inquired into the power matter, but stated then that there was not the slightest possibility of the United Light & Railways Company taking over the property.

New York State Railways, New York, N. Y.—The New York Stock Exchange has listed $6,532,000 of additional fifty-three-year consolidated mortgage 4½ per cent bonds of the New York State Railways, series A, due on Nov. 1, 1962, making the total listed $13 457.000, of which $12,-748,000 were outstanding on Dec. 31, 1915. The additional bonds represent expenditures for additions, betterments, etc., including $3,075,000 yet to be made.

Okmulgee (Okla.) Interurban Railway.—An option for the purchase of the Okmulgee Interurban Railway has been sold by the Lambert interests to O. R. B. Pace, Sherman, Tex.; C. F. Hopkins, of the Union National Bank, Tulsa, Okla., and C. W. Goree, Okmulgee. The purchasers of the option announce that the line is to be made the nucleus of an interurban system which will reach Tulsa and Oklahoma City. Lake Park is also included in the option.

Orleans-Kenner Electric Railway, New Orleans, La.—The city of New Orleans is said to have under consideration the question of conducting negotiations for the purchase of the Orleans-Kenner Electric Railway. Practically all the line is outside the city, but the road is desired as an annex to the public belt system. I. D. Moore, city attorney, is said to have rendered an opinion to the effect that the Public Belt Commission would be within its rights in acting in the matter.

Pacific Gas & Electric Company, Sacramento, Cal.—The National City Company and Harris, Forbes & Company, New York, N. Y., are offering for subscription $3,060,000 of general and refunding mortgage 5 per cent gold bonds of the Pacific Gas & Electric Company dated Dec. 1, 1911, and due on Jan. 1, 1942.

Portland & Oregon City Railway, Portland, Ore.—There has been filed for record in favor of the Security Savings & Trust Company, Portland, as trustee, a deed securing an issue of $350,000 of bonds by the Portland & Oregon City Railway, the proceeds to be used to extend the railway from Dedham station to Oregon City.

Rochester Railway & Light Company, Rochester, N. Y.—The merger of the Canandaigua Gas Light Company, the Despatch Heat, Light & Power Company, the Eastern Monroe Electric Light & Gas Company, and all but the electric railroad property of the Ontario Light & Traction Company into the Rochester Railway & Light Company, has been approved and payment partly provided for through an issue of securities by the last-named company in an order of the Public Service Commission at Albany. The Rochester Railway & Light Company is authorized to issue $750,000 of its common stock at par, which the Mohawk Valley Company is authorized to purchase. The proceeds of the sale will be used by the Rochester company to pay $50,000 for the outstanding stock of the Canandaigua company, $400,000 for the outstanding stock of the Despatch company and $250,000 for that of the Eastern Monroe company. For the property and franchises other than the electric railroad of the Ontario Light & Traction Company, the Rochester company will pay $178,500. Upon the merger of the three companies their stock will be cancelled.

Seattle (Wash.) Municipal Railway.—According to the report of A. L. Valentine, superintendent of public utilities, the municipal lines of Seattle, Division "A" and Division "C," were operated during December, 1916, at a loss of $2,393. During the entire year of 1916, according to Mr. Valentine's report, the lines were operated at a total loss of $29,417. During May and June both Division "A" and Division "C" were operated at a profit more than sufficient to pay the operating cost, but not sufficient to cover the interest. In all other months the revenues were not sufficient to cover the operating cost. The city of Seattle began the operation of the municipal lines on June 1, 1914, and for the remainder of that year there was a loss of $14,580. The loss in 1915 was $41,389. The total loss for the two and one-half years has accordingly been $85,387.

St. Lawrence International Electric Railroad & Land Company, Alexandria Bay, N. Y.—The St. Lawrence International Electric Railroad & Land Company is defunct. On Aug. 5, 1916, the Northern New York Utilities, Inc., acquired the lighting property for $40,000 at mortgage foreclosure sale, obtaining a deed on Aug. 16, 1916. At the same time the railroad property was acquired by Hurwitz Brothers Iron & Metal Company, Syracuse, N. Y., who operated it until Oct. 16, 1916, after which operations were discontinued because of the failure to secure sufficient subscribers for the organization of a new company to continue the railroad operations. The property has been dismantled and scrapped.

United Railways & Electric Company, Baltimore, Md.—At the meeting of the directors of the United Railways & Electric Company on Jan. 30 M. Ernest Jenkins was elected a member of the executive committee. He takes the place of William A. House, resigned.

Washington Railway & Electric Company, Washington, D. C.—At the recent annual meeting of the Washington Railway & Electric Company Charles A. Spalding, Washington, was elected a director of the company to succeed Oscar L. Gubelman, of Knauth, Nachod & Kuhne, New York, N. Y., bankers, who retired because his other interests prevented him from participating regularly in the deliberations of the board.

Washington & Maryland Railway, Washington, D. C.—The Public Utilities Commission of the District of Columbia has withdrawn the authority granted under its order dated June 30, 1915, authorizing the Washington & Maryland Railway to issue and sell first-mortgage 5 per cent thirty-year gold bonds to the amount of $66,200. It has now authorized the company to issue $66,000, par value, of general mortgage 6 per cent thirty-year gold bonds and $30,000, par value, of prior lien 5½ per cent thirty-year gold bonds. The $66,000, par value, of the general mortgage bonds of the railway will be used to consummate the purchase of the properties of the Baltimore & Washington Transit Company in Maryland in lieu of the $66,200, par value, general mortgage bonds heretofore authorized, including the retiring of the certificates issued by the receiver of the Baltimore & Washington Transit Company of Maryland, amounting to $20,000. The $30,000, par value, of prior lien, 5½ per cent, thirty-year gold bonds will be used as collateral to secure the payment of $25,000 of 6 per

cent, one-year gold notes. The $25,000, par value, 6 per cent, one-year gold notes will be sold for cash at par, and the proceeds will be used to extend the road from its present terminus in the town of Takoma Park, Montgomery County, Maryland, and through the town by way of Carroll Avenue to its junction with Sligo Creek. As the gold notes which are to be issued are payable in not more than a year the consent of the commission was not necessary on this point and the commission did not consider it. The commission also approved a contract providing for the operation of the lines of the Washington & Maryland Railway by the Capitol Traction Company.

Dividends Declared

American Railways, Philadelphia, Pa., quarterly, 1¾ per cent, preferred.

Cumberland County Power & Light Company, Portland, Me., quarterly, 1½ per cent, preferred.

Illinois Traction Company, Peoria, Ill., quarterly, three-quarters of 1 per cent, common.

Massachusetts Consolidated Railways, Greenfield, Mass., quarterly, 1⅜ per cent, preferred.

New Hampshire Electric Railways, Haverhill, Mass., 2 per cent.

Philadelphia Company, Pittsburgh, Pa., 2½ per cent, preferred.

Rio de Janeiro Tramway, Light & Power Company, Ltd., Rio de Janeiro, Brazil, 1¼ per cent.

Sao Paulo Tramway, Light & Power Company, Ltd., Sao Paulo, Brazil, 2½ per cent, common.

Union Street Railway, New Bedford, Mass., quarterly, 2 per cent.

United Power & Transportation Company, Camden, N. J., $1.55.

Electric Railway Monthly Earnings

ATLANTIC SHORE RAILWAY, SANFORD, ME.

Period			Operating Revenue	Operating Expenses	Operating Income	Fixed Charges	Net Income
1m.,	Dec.,	'16	$21,935	*$33,520	†$11,585	.....	.....
1 "	"	'15	22,658	*20,051	2,607	.....	.....

CAPE BRETON ELECTRIC COMPANY, LTD., SYDNEY, N. S.

1m.,	Nov.,	'16	$34,904	*$19,084	$15,820	$6,484	$9,336
1 "	"	'15	33,011	*17,790	15,221	6,642	8 579
12 "	"	'16	389 650	*228,545	161,105	78.312	82,793
12 "	"	'15	350,740	*205,580	145,160	79,330	65,830

COLUMBUS (GA.) ELECTRIC COMPANY

1m.,	Nov.,	'16	$87,021	*$31,903	$55,118	$28.521	$26,597
1 "	"	'15	67,290	*27,382	39 908	28,679	11,229
12 "	"	'16	867,196	*347,933	519,263	343.726	175,537
12 "	"	'15	710,927	*322,776	388,151	344,657	43,494

FEDERAL LIGHT & TRACTION COMPANY, NEW YORK, N. Y.

1m.,	Dec.,	'16	$230.174	*$133.385	$96,789	$49.795	$46,994
1 "	"	'15	229,556	*145,642	83.914	48.493	35,421
12 "	"	'16	2 502,142	*1,637.893	864,249	586.046	278,203
12 "	"	'15	2,352,015	*1,545,716	806,299	589.342	216,957

LEWISTON, AUGUSTA & WATERVILLE STREET RAILWAY, LEWISTON, ME.

1m.,	Nov.,	'16	$61,871	*$47,460	$14 411	$15,246	†$835
1 "	"	'15	57,229	*40,667	16,562	15,959	603
12 "	"	'16	798,318	*543,474	254,844	188,312	66,532
12 "	"	'15	729,994	*473,190	256,804	189,531	67,273

NORTHERN TEXAS ELECTRIC COMPANY, FORT WORTH, TEX.

1m.,	Nov.,	'16	$163,929	*$92,228	$71,701	$29,222	$42,479
1 "	"	'15	145,691	*89 000	56,691	26,954	29.737
12 "	"	'16	1,904,904	*1,149.770	755,134	347,583	407,551
12 "	"	'15	1,718,833	*1,043,340	675,493	330,265	345,228

PADUCAH TRACTION & LIGHT COMPANY, PADUCAH, KY.

1m.,	Nov.,	'16	$26.100	*$19,883	$6,217	$7,246	†$1.029
1 "	"	'15	25,031	*14,421	10,610	7,476	3.134
12 "	"	'16	311,625	*208,633	102,992	86 845	16,147
12 "	"	'15	289,671	*179,861	109,810	91,529	18,281

PENSACOLA (FLA.) ELECTRIC COMPANY

1m.,	Nov.,	'16	$21,151	*$13,698	$7,453	$7,726	†$273
1 "	"	'15	23,516	*12,407	11,109	7,051	4,058
12 "	"	'16	277,192	*155,688	121,504	91,894	29,610
12 "	"	'15	254,213	*146,419	107,794	86,073	21,721

TAMPA (FLA.) ELECTRIC COMPANY

1m.,	Nov.,	'16	$80 779	*$44,027	$36,752	$4,464	$32,288
1 "	"	'15	83,696	*44,565	39,131	4,342	34,789
12 "	"	'16	961,411	*526,540	434,871	42,391	382,480
12 "	"	'15	980,780	*500,902	479,878	52,424	427,454

*Includes taxes. †Deficit.

Traffic and Transportation

British Steam Fares Up 50 Per Cent

Effort Made to Decrease Passenger Traffic and Allow Carriers to Meet Government Demands—Traffic Thrown on Tramways

The extent to which railroad service in Great Britain has been turned to government use was indicated in an unusual fashion by a recent act of the Board of Trade designed to cut down passenger traffic and thus allow the railroads to cope with government demands. It was announced that on and after Jan. 1, 1917, the railroads in Great Britain should take the following steps: (1) Increase all passenger fares 50 per cent, and (2) refuse to carry baggage exceeding a total weight of 100 lb. per passenger. It was intended that these orders should be applied generally, although certain exceptions would be publicly announced later. In general, however, the increase in fares was not to apply to (*a*) workmen's tickets, (*b*) season tickets, (*c*) traders' tickets and (*d*) zone tickets when an arrangement for the issuance of such tickets was already in operation.

When this increase in fares was first announced, some question was raised as to whether the parliamentary railroad fare of one penny a mile could be increased without special legislation. It was stated, however, that the defense of the realm act provided the Board of Trade with necessary power. Furthermore, it was said that the object of the government in making the increase was not to increase revenue, but solely to reduce passenger traffic in view of the enormous demands which the War Office and the Ministry of Munitions would make next year both in Great Britain and in France. The new order was fully a war measure, and the old fares would be restored after the cessation of hostility. It was officially announced, however, that the public would do well to understand that if the increase in fares and the new restrictions did not produce the desired result, other and more exacting measures would certainly be introduced.

The ordered increase applies in the main only to the steam railroads and not to municipal and other local tramways. The desire not to interfere with purely local transportation rates is evident in the published exception of the Underground Electric Railways of London, Ltd. The fare increase does not apply to this company within these limits: (1) On the District Railway within Aston Town, Putney Bridge and Bow Road; (2) on the Bakerloo, Piccadilly & Hampstead lines of the London Electric Railway; (3) on the Central London Railway; (4) on the City & South London Railway; (5) on the Inner Circle and stations on the Hammersmith & City line, and (6) on the Great Northern & City Railway. Local and through fares between these groups and within the limits stated remain unaltered, but in case of bookings to and from outside points, 50 per cent of the fare is added.

The immediate result of the fare increase on the steam railroads was a withdrawal of service that had an effect upon local tramway systems. The steam railroads largely curtailed their suburban train services and entirely shut down many of the stations in the suburban area. This applied very largely to London, but all other big cities were affected, though not so seriously. Consequently, more traffic is likely to be thrown on tramway services. It is anticipated that the closing of a large number of stations on the London railways will throw a considerable amount of extra traffic upon the London County Council Tramway. As soon as it is known where the extra traffic will fall, the tramways department of the Council will immediately consider the best ways and means of coping with it. It will be a difficult problem in view of the fact that the system is already fully taxed, but it is hoped that some solution may be found by a rearrangement of the service. The Underground Electric Railways have also got the matter under consideration, but no decision has yet been announced.

Jitney Tariffs Demanded

California Railroad Commission Requires Rates and Time Schedules Before March 1

The Railroad Commission of California on Jan. 19 ordered all passenger and freight jitneys and auto buses running on regular schedules over regular routes on public highways between fixed points, not solely within municipalities, to file their rates and time schedules with the commission before March 1, 1917. This order follows the recent decision of the Supreme Court of California that jitneys and auto buses operating under those conditions are subject to the jurisdiction of the commission. The commission has prepared blank forms for these filings of rates and routes, and will furnish them to jitney operators.

At present the status of the Railroad Commission with relation to jitneys, both passenger and freight, is that the commission has jurisdiction over the rates of all such transportation when not conducted solely within municipalities.

It was on the complaint of the Western Association of Short Line Railroads against the Wichita Transportation Company and of the United Railroads, San Francisco, against the Peninsula Rapid Transit Company that the proceeding was brought before the Railroad Commission, which recently resulted in the decision of the Supreme Court of California declaring that these lines were under the Railroad Commission's jurisdiction. The Western Association and the United Railroads asked the Railroad Commission to fix rates and time schedules for these freight and passenger jitneys, but the commission denied that it had jurisdiction over them. The case was taken to the Supreme Court by the complainant railroads, and the court decided that the commission had jurisdiction under the following conditions over both passenger and freight jitneys: (1) As common carriers of passengers or freight; (2) on regular schedules; (3) over regular routes on public highways and between fixed terminals, and not operating solely within the limits of one municipality.

These jitneys were held to be transportation companies under section 22 of Article 12 of the state constitution. The Supreme Court declined to say, however, that these companies were subject to all the provisions of the Public Utilities Act, which, besides giving the Railroad Commission jurisdiction over rates and rules of all public utilities, makes all issues of securities by these utilities subject to the commission, and requires that these companies obtain from the commission a certificate that public convenience and necessity require their operation before beginning business.

Hearing on Inclosed Vestibules

Commission Holds Hearing on Proposed Order to Require Fully Inclosed Vestibules on All Greater New York Cars

At a hearing on Jan. 31 the Public Service Commission of New York, First District, submitted its case in regard to a proposed order requiring fully-inclosed vestibules on all cars operated in Greater New York. At the opening of the hearing C. W. Wilder, electrical engineer for the commission, read a report outlining the results to be expected from the use of folding doors and steps in connection with door-interlocked control, citing the fact that the Third Avenue system had reduced the number of its boarding and alighting accidents by about 70 per cent by this means and had eliminated all serious accidents of this class. He quoted from a table published in the Electric Railway Journal for Feb. 6, 1915, in which it was shown that, on the Third Avenue Railway, the settlements for boarding accidents had been reduced from $6,817 to $451 during four months' test periods in successive years before and after installation of folding doors and steps, and that alighting accident settlements had been reduced from $5,667 to $1,110, these savings applying to about 210 cars.

Mr. Wilder regarded the change as a very profitable one for the railways from a purely financial standpoint, and said that the cost per car should range from $150 to $600 depending upon the amount of reconstruction that was necessary. With regard to the effect on schedule speed he stated that, with the door and control interlock, no appreciable difference need be expected. He did not recommend, however, a device to hold the door closed while the car was in motion, but only one that prevented power from being applied when the door was open.

Objection to the use of the interlock was raised by the railway's representatives on various grounds, including the fact that the device did not eliminate the human element in connection with alighting accidents. The commission, however, pointed out that boarding accidents appeared to be about twice as frequent as alighting accidents and that the serious alighting accidents had been eliminated by the use of folding doors on the Third Avenue System.

Emphasis was laid upon the fact, also, that the electric interlock was a patented device, although the commissioners treated this phase of the matter as of secondary importance by citing the general use of the patented air brake. However, the commission expressed evidence of being willing to accept equivalent devices, such as a mechanical means for holding the controller in off position. Other than this, attention centered throughout the questioning of Mr. Wilder on the matter of cost in relation to the possible saving in damage claims, and the fact was brought out that on one very small property in Greater New York no boarding and alighting accidents had occurred in ten years.

E. A. Maher, Jr., assistant general manager of the Third Avenue Railway, testified that all of that company's cars had been equipped with fully-inclosed vestibules since 1914, and that it was unquestionably a desirable arrangement. The interlock, he said, added about $100 to the cost of the change-over for each car, but that no royalty was paid to the patentee of the device, J. S. MacWhirter, superintendent of equipment, Third Avenue Railway. The total cost of material and labor for installing folding doors and steps and a control interlock amounted to $324 per car in 1913-14. At present prices the cost would be about 70 per cent greater.

No case was put forward by the railways at this hearing and more time was requested to permit them to investigate the subject. The hearing was therefore adjourned to Feb. 28.

Goods Traffic Recommended

Larger Electric Railway Freight Service Recommended by Massachusetts Cost of Living Commission

The extension of electric railway freight and express service at Boston and the development of comprehensive plans and the construction of appropriate facilities for the larger treatment of the merchandise transportation problem by the Boston Transit Commission is recommended in a special report to Governor McCall of Massachusetts by a special commission on the high cost of living, headed by former Lieut.-Gov. Robert Luce. In the course of its discussion the report emphasizes the admirable development of passenger transportation facilities at Boston in the last twenty-five years through the construction of subways by the commission and urges that the board now be required to devote its experience and abilities to the solution of the merchandise-handling problem. The report declares that electric railway freight has been neglected by the community as a factor in reducing the present high cost of living, points out that the existing electric railway express development is insufficient for the possible traffic available, and recommends that the details of electric freight service with the exception of terminal construction be placed under the supervision of the Public Service Commission. The report also advises legislation giving the latter commission power to authorize and foster, with due regard for public convenience, the carriage on electric railways of any and every form of merchandise and material.

Economy in Supplies Urged

Samuel Rea, president of the Pennsylvania Railroad, on Jan. 29 sent a notice to all officers and employees of the company calling attention to the fact that the strictest economy must be adhered to in the ordering and use of material. Mr. Rea's notice was as follows:

"I desire to call your attention to the exceptionally high

prices of all classes of materials and supplies. This increase in cost, in many cases exceeding 100 per cent and in some cases 200 per cent or higher, is becoming more serious for the company, and is one of the main causes for its decreased net earnings despite greater gross earnings. Therefore, in the interest of all concerned, it is essential to practise the strictest economy in ordering and using materials and supplies. Officers will bring this notice to the attention of all employees, and request their co-operation in all measures required to make it effective."

Jitney Regulations in Vancouver

The by-law embodying the changes in rules and regulations of jitney buses in Vancouver, B. C., has been passed by the Council after several months' delay. The only change made in the new ordinance on final reading was in the clause providing for the routing of jitneys. The routes finally decided upon are, with one exception, the same as those taken by the street cars. The new ordinance includes provisions that no person under twenty-one years of age shall operate a jitney; that all applicants must undergo a medical examination; that every owner of any motor vehicle must report to the license inspector once a month a record of all drivers in his employ; that only one passenger be allowed in the front seat; that cars must stop 75 ft. from a corner to load or unload passengers; that drivers must state the route over which they intend to operate when they secure license and must complete full trip; that lights must be kept burning in the rear seat of each car from dusk until dawn when the top is up; that the license fee per car shall be $30 and the driver's license $5 per annum. Representatives of the British Columbia Electric Railway and the Jitney League were present at the final hearing. W. G. Murrin, assistant general manager, spoke for the railway.

New Public Service Magazine

A new monthly employees' publication, the *Trolley Weal*, has just been launched into print by the Public Service Railway, Newark, N. J. The first issue, dated Januuary, 1917, is prefaced by forewords of encouragement by President Thomas N. McCarter and General Superintendent N. W. Bolen, expressing sympathy with the plan of starting the new magazine. The editor, J. W. Brown, assistant general superintendent of the company, is assisted by eight associate editors. The editorial plan, as announced in the columns of the new paper, provides for the publication from time to time of articles by the several department heads dealing with some special feature of operation, engineering, maintenance, accounting, or whatever the subject may be. In addition, every man is urged to contribute articles dealing with his experience in whatever duties he is engaged on the property, also to turn in items of personal and social nature of events in the athletic field and other general news. The periodical will in later issues keep its readers posted on technical literature by giving short reviews of new books received by the company's technical library and calling attention to the important articles in current periodicals. The magazine carries no advertising matter.

Ticket Sales on Cars Discontinued

The sale of interurban tickets on cars on the Akron, Bedford & Cleveland and Canton-Akron divisions of the Northern Ohio Traction & Light Company, Akron, Ohio, have been discontinued. According to the company it has been found that conductors were very often unable to supply tickets to all who requested them without being required to carry an excessive and impracticable number of tickets on the cars; and these tickets sold on cars could not be accurately stamped as to dates and place excepting only from the offices where conductors obtained supplies. As a result, the record of the date of the ticket might be all wrong by the time the ticket reached the passenger.

In the second place, the sale of tickets on the cars has been a great handicap to conductors for the reason that bills of large denomination are constantly presented for change, and errors are much more likely to be made while the conductor is receiving fares on a well-filled car than will often happen at a ticket office window.

With less attention and time required in taking fares and making change, conductors will be the better able to care for the safety of their passengers and cars.

Meeting of Missouri Short Line Committee.—In a report of the meeting of the Missouri Short Line Safety Committee, published in the ELECTRIC RAILWAY JOURNAL of Jan. 6, page 32, the safety organization of the Kansas City, Clay County & St. Joseph Railway, the name of J. D. Bowersock was erroneously given. The speaker on that occasion was I. D. Hook, attorney for the road.

Louisville Publication Reiterates Responsibility of Employee.—*Trolley Topics*, the company publication of the Louisville (Ky.) Railway, has helped to perpetuate one phase of the doctrine of publicity by quoting in its columns the text of an editorial which appeared in the ELECTRIC RAILWAY JOURNAL of Nov. 4, 1916, headed by a cartoon entitled "Every Employee a Publicity Representative."

Kentucky Court Condemns Accident Running.—Efforts of the Louisville (Ky.) Railway to discourage the practice of certain attorneys soliciting damage cases against the company, have been in the main sustained by decisions of the Kentucky courts. In a recent case the Kentucky Court of Appeals ruled that the attorney may not collect a $500 contingent fee from the railway company because his employment as attorney was secured by illegal solicitation and was against public policy. The opinion of the court distinguished between personal solicitation and the "indefensible and vicious practice of employing agents and runners to go about the country soliciting business and stirring up strife and securing litigation for a stipulated compensation or a contingent fee."

Sedalia Company Describes Its Problems.—The City Light & Traction Company, Sedalia, Mo., a Doherty property, has embodied a series of its Sedalia illustrated newspaper advertisements into a booklet of facts just issued about the operating, management and personnel of the company. Each advertisement is devoted to a certain phase of operation, well calculated to interest the reader, such as the modern equipment of the Sedalia cars and their safety devices; the power house and the auxiliary units which must be maintained in order to prevent interruption of service; the company's office and the hospitality it offers; the platform men and the extent of their work; the cost of trolley wire, track and car repairs, and the economy of going to work in trolley cars as compared with automobiles.

"The Missouri Short Line."—"The Missouri Short Line" is the familiar title that has crept into popular usage for the Kansas City, Clay County & St. Joseph Railway operating between Kansas City and St. Joseph, Mo., and between Kansas City and Excelsior Springs. The Kansas City public had referred to the "Excelsior Springs Route" when reference was meant to that division, and to the "St. Joseph Line" when the other division was intended. Speaking casually of the Kansas City, Clay County & St. Joseph Railway, the abbreviation used was "Clay County Road." This designation omitted entirely Kansas City, St. Joseph, Excelsior Springs, Jackson County, Mo., Buchanan County and Platte County. To obviate any unintended partiality, the name "Missouri Short Line" was decided upon.

Kentucky Pass Rulings.—First rulings in the Kentucky courts relating to rights of pass-holders and obligations of railways, under the new anti-pass law in effect in Kentucky, have favored the pass-holders. Two plaintiffs sued to compel the Kentucky Traction & Terminal Company to continue honoring passes issued to them in consideration of their giving rights-of-way to the company. The plaintiffs contended that the Federal constitution provided against passage of laws such as to abrogate contracts. When the Kentucky law became effective, the company, and others in the State, notified the holders of perpetual as well as other passes that they would no longer be honored. The

railway is seeking merely an interpretation of the law in such cases and will appeal from the decision, although it has no desire to evade its contract.

Four Killed in an Accident in Ohio.—On the afternoon of Jan. 27 a head-on collision occurred between a freight and a passenger car on the Cleveland, Southwestern & Columbus Railway, near Strongsville, Ohio, which resulted in the death of four persons and the injury of a number of others. Clarence T. Kemerer, motorman of the passenger car, and Orr H. Dawson, chief electrician of the road, were among the dead. The cars took fire after the collision and were destroyed. A second wreck occurred on the Cleveland, Southwestern & Columbus Railway, 3 miles north of Wooster, on Jan. 29, William Gauweiler, motorman on a passenger car, running extra and without passengers, was killed. The car struck a work train. One or two other employees of the company were injured. The car took fire and was totally destroyed.

Massachusetts Commission Publishes Inspection Figures.—During the year the inspection department of the Massachusetts Public Service Commission, according to its 1916 report, made 4040 car inspections and found defects in 918 cases, including untidy conditions. The number of fatal accidents to individuals investigated was 105. The number of accidents due to broken or loose wheels, broken journals and axles reported was 115; miscellaneous accidents investigated, such as collisions, personal injuries and accidents caused by faulty operation, 592; accidents caused by spread rails, broken rails, defective special work, poor surface and alignment of track, 746. Accidents caused by persons coming in contact with either fenders or wheel guards or both were: fatal, 24; serious, 15; either fatal nor serious, 280. Lifting jacks were used eight times to extricate persons from under cars, the time ranging from 3 to 15 minutes, usually under 5 minutes.

Jitney Franchises Sought in Portland, Ore.—Franchises for the operation of several jitney lines over various streets in Portland, Ore., sought by Stephen Carver are being published by the City Council. A provision was inserted in the proposed franchises requiring Carver to provide a bond of $1,000 for each of the two proposed East Side grants, and a bond of $500 covering the proposed West Side grants, as a guarantee that within thirty days after the franchises become effective, he will begin to operate motor buses over the various designated routes, and will continue to operate them for at least six months thereafter. Additional bonds of $10,000 for each of the two East Side grants and $7,500 for the West Side franchise will be required to cover any damages resulting from accidents to patrons of the various lines. Vice-President F. I. Fuller and Attorney R. A. Leiter, of the Portland Railway, Light & Power Company, objected to the routing of the jitneys on any streets on which street cars of the company operate, because of the danger and from the standpoint of fairness to the company. The charge which will be made against the jitney operators under the proposed franchises is a quarterly fee of $1 for each seat in the jitney.

New York's Annual Fares Almost 2,000,000,000.—For all the transit lines in Greater New York during 1916 there was an increase in passengers carried over 1915 of 91,000,000, according to the recent annual report of the Public Service Commission of the First District of New York. The number of fares collected during the year ended June 30, 1916, was 1,898,735,615, against 1,807,632,726 for the preceding year. The amount of fares collected during 1916 was $93,176,216, an increase of more than $4,000,000, or nearly 5 per cent over 1915. The payment of transportation on these lines during 1916 was $17.80 per capita. During the year the Interborough Rapid Transit Company carried a total of 371,505,312, an increase of 25,919,569 over the previous year. During the latter part of 1916 the subway not infrequently carried an average of more than 1,400,000 passengers a day. In conclusion the report points out that the 1916 record for accidents on railroads and street railroads in New York City exceeded that for 1915 by more than 5000. In 1915 the total number of accidents was 66,208, and last year the total was 71,854. The number of persons killed in such accidents in 1915 was 231, against 251 in 1916.

Personal Mention

Fred M. Weld has been appointed master mechanic of the Holyoke (Mass.) Street Railway.

G. C. Chadderdon has been appointed chief engineer of power station of the Springfield (Ohio) Railway.

J. J. Molyneaux has been appointed auditor for the Southwestern utility properties of H. M. Byllesby & Company, Chicago, Ill.

A. H. S. Cantlen has been elected president of the Quakertown (Pa.) Traction Company, a subsidiary of the Lehigh Valley Transit Company.

James H. Porter, superintendent of distribution of the Oskaloosa Traction & Light Company, Oskaloosa, Iowa, has been appointed general superintendent of this company.

Max H. Prill, vice-president of the Centralia & Central City Traction Company, Centralia, Ill., has been appointed general manager, succeeding his father, Max Prill, who remains as president.

George W. Davison, one of the vice-presidents of the Central Trust Company, New York, has been elected a director of the Third Avenue Railway, New York, succeeding the late Frederick W. Whitridge.

Martin Delehanty, foreman of the Cold Spring carhouse of the International Railway, Buffalo, N. Y., has been promoted to the position of assistant general carhouse foreman in charge of car cleaning and sanitation.

R. J. McElravy, for the past three years superintendent of the East Liverpool Traction & Light Company, has been appointed general manager, succeeding C. A. Smith, who will continue as president of the company.

A. E. Ward, who has been affiliated with the Reading Transit & Light Company in Reading, Pa., has been appointed as manager of the Lebanon properties of this same company, to succeed Harry G. Louser, resigned.

R. S. Metzger, of the Toledo Railways & Light Company, Toledo, Ohio, has been added to the force of the safety department of Henry L. Doherty & Company, having charge of all safety matters pertaining to railway work.

R. J. Hole, who has been local manager of the Salisbury & Spencer Railway, Salisbury, N. C., has become manager in charge of operations in all divisions of the North Carolina Public Service Company, and will move to Greensboro.

R. P. Stevens, president of the Mahoning & Shenango Railway & Light Company, Youngstown, Ohio, was elected a member of the board of directors of the Cleveland Electric Illuminating Company at the annual meeting on Jan. 24.

Paul S. Duenweg, assistant manager of the Galveston (Tex.) Electric Company, has been promoted to the position of secretary to L. C. Bradley, district manager of the Stone & Webster properties in Texas, with headquarters in Houston.

C. S. Pinkerton, formerly associated with the Guaranty Trust Company, New York, as assistant auditor, has been elected treasurer of J. G. White & Company, Inc., and the J. G. White Engineering Corporation, of New York, succeeding R. B. Marchant.

Frederick L. Ray, who has resigned as superintendent of steam equipment for the Louisville (Ky.) Railway, was guest of honor at a banquet given by Kentucky No. 1, National Association of Stationary Engineers. There were forty men present and farewell addresses were made.

Douglas I. McKay has been elected a vice-president of J. G. White & Company, Inc., New York. Mr. McKay, who at one time was Police Commissioner of New York City, has been connected with J. G. White & Company, Inc., for more than two years in the capacity of assistant to the president.

G. C. Still, chief engineer of the Cumberland County Power & Light Company, Portland, Me., and the York County Power Company, has also been appointed chief engineer of

the Lewiston, Augusta & Waterville Street Railway and the Westbrook Electric Company, which are controlled by the Cumberland County Power & Light Company.

Sanger B. Steel has been elected a vice-president of J. G. White & Company, Inc., New York. Mr. Steel, prior to his recent election, was manager of the Chicago office of the banking and brokerage firm of Paine, Webber & Company, Boston, and his activities with the White corporation will be in connection with handling and distributing securities.

Clinton B. Smith has been made superintendent of schedules and time-tables of the Mahoning & Shenango Railway & Light Company, Youngstown, Ohio. Mr. Smith is a graduate of Worcester Polytechnic Institute. He completed the cadet course with the Public Service Railway of New Jersey and was with that company for some time as a traffic investigator.

G. L. Enfors, who has been superintendent of the repair shops and the railroad division of the Porto Rico Railway, Light & Power Company, Ponce, P. R., for four years, has been promoted to also take charge of the trolley division of this company, with the title of superintendent, succeeding J. E. Burns, resigned. Mr. Enfors previously was connected with the Boston (Mass.) Elevated Railway in the engineering department for seven years and for twelve years was connected with the Fitchburg & Leominster Street Railway, Fitchburg, Mass., as superintendent of motive power.

R. O. Launey has been appointed editor of the *Buzzer*, the employees' weekly magazine of the Birmingham Railway, Light & Power Company, Birmingham, Ala., to succeed Frank Hammond, resigned. Mr. Launey has shown a great interest in the publication of this magazine, and has been a large factor in its success. He has been with the company since April, 1904, and holds the position of auditor. He has taken an active part in athletic and welfare work. Before becoming affiliated with the above mentioned company Mr. Launey was connected with the public utilities at Savannah, Ga., where he was born.

C. R. Collins, assistant engineer in the engineering department of the Puget Sound Traction, Light & Power Company, Seattle, Wash., has left this company to go with the Grays Harbor Railway & Light Company, Aberdeen, Wash., where he will assume the position of general superintendent and chief engineer. Mr. Collins is a graduate of Purdue University of the class of 1907. Since 1909 he has been connected with the Puget Sound Traction, Light & Power Company, being successively in the substation, meter, distribution and operating departments, and holding the positions of superintendent of distribution, operating superintendent in charge of meters and distribution.

S. T. Henry has resigned as second vice-president of the McGraw Publishing Company, Inc., and on Feb. 1 became identified with the American International Corporation, New York, as vice-president of a subsidiary organization which will handle the export of contractors' machinery and equipment. In his comparatively brief career with the McGraw Publishing Company Mr. Henry has made remarkable progress. Entering the organization, after graduation from the University of Illinois, in August, 1904, as an assistant on the editorial staff of the *Engineering Record*, he rose rapidly through the positions of Western editor, Cleveland advertising representative, and Western manager of the paper to the junior vice-presidency of the company. Since his promotion to a general executive position his duties have pertained to all the properties of the company, including, in addition to the *Engineering Record*, the *Electrical World*, the ELECTRIC RAILWAY JOURNAL, and *Metallurgical & Chemical Engineering* and *Electrical Merchandising*.

J. W. Brown, since 1913 assistant general superintendent of the Public Service Railway, Newark, N. J., is the editor of the new employees' publication of that company, the *Trolley Weal*, described elsewhere in this issue. Mr. Brown has been connected with the Public Service Railway since April, 1911. Before that he was with the Aurora, Elgin & Chicago Railroad and prior to that time was superintendent of transportation of the West Penn Railways, Connellsville, Pa. He entered the service of the McKeesport, Wilmerding & Duquesne Railway, McKeesport, Pa., about fourteen years ago as night car dispatcher. He also served as electrician and later as power station engineer of this company. When the Pittsburgh, McKeesport & Connellsville Railway was formed, Mr. Brown was made master mechanic of the McKeesport Division of that road and later was promoted to division superintendent. When the transportation department of the company was organized in 1903 he was appointed superintendent of transportation of the company. He resigned from the West Penn Railways in August, 1910, to become connected with the Aurora, Elgin & Chicago Railroad. Previous to his present operating position on the Public Service Railway, Mr. Brown was assistant superintendent of transportation.

Edward A. Maher, Sr., vice-president and general manager of the Third Avenue Railway and its subsidiary companies, has been elected president of the company to succeed the late Frederick W. Whitridge. Mr. Maher was born in Albany, N. Y., in 1852. He attended the public school and after graduation from the State Normal School entered politics, was successively president of the Board of Supervisors of Albany and a member of the Assembly from that city. He served as Mayor of Albany from 1888 to 1890. Upon expiration of his term he was made vice-president and general manager of the Albany Electric Illuminating Company. Mr. Maher came to New York City in 1892 and was made president of the Union Railway. In 1896 the Third Avenue Railway took over the Union Railway properties and Mr. Maher retained his position as president and general manager of the Bronx and Westchester subsidiary company. When Mr. Whitridge was elected receiver of the Third Avenue Railway in 1908, Mr. Maher was made general manager. Later when the receivership was lifted and Mr. Whitridge was elected its president, Mr. Maher was made vice-president and general manager of the line, which positions he held until his recent election. He had direct charge of meeting the strike situation which began in Yonkers last summer and later extended to the entire Third Avenue System.

Obituary

Orr H. Dawson, chief electrician of the Cleveland, Southwestern & Columbus Railway, Cleveland, Ohio, was killed in a collision on Jan. 27 between two cars on the company's line.

Robert E. Sheldon, who served for more than thirty years as a director of the Columbus Railway, Power & Light Company, Columbus, Ohio, and a portion of that time as vice-president and as president, died at his home in that city on Jan. 20. Mr. Sheldon resigned his position as president of the company in 1912.

John P. Dwyer, auditor of disbursements for the Boston (Mass.) Elevated Railway, died on Jan. 28 at his home in Newton as a result of shock from his wife's recent death. Born in Saratoga Springs, N. Y., sixty-two years ago, Mr. Dwyer came to Boston and as a boy took employment with the old West End Street Railway. He worked up to the office which he held at the time of his death. He is survived by a son, a daughter and a sister.

A. A. Thurlby, superintendent of transmission for the Chicago Surface Lines, died on Jan. 23. Mr. Thurlby was born in Nottingham, England, in 1860, and came to America in 1868. He began work with the Brush Electric Company, Cleveland, Ohio, where he became an erecting engineer. In 1891 he resigned that position to become manager of the Battle Creek (Mich.) Street Railway. The following year he accepted the position of engineer for inside wireman with the Chicago Edison Company. In 1893 he accepted a position with the People's Light, Power & Motor Company, Chicago, as assistant superintendent in charge of overhead lines. He remained with that company when it was absorbed by the Commonwealth Edison Company, but resigned in 1899 to accept the position of manager of the Manistee (Mich.) Electric Railway. In 1902 he became associated with John R. Walsh in his electrical projects, but resigned in 1907 to return to the Commonwealth Edison Company. In 1907 Mr. Thurlby was appointed superintendent of underground and overhead wires and cables of the Chicago City Railway, which position he held until his appointment with the Chicago Surface Lines in 1914.

Construction News

Construction News Notes are classified under each heading alphabetically by States.

An asterisk (*) indicates a project not previously reported.

RECENT INCORPORATIONS

*Stanley Railway Company of New Britain, New Britain, Conn.—Application for incorporation has been made by the Stanley Railway Company of New Britain to construct a line between New Britain and Hartford. Capital stock, $100,000, with power to increase it to $300,000. Incorporators: Mayor George A. Quigley, Senator George M. Landers, James M. Curtin and E. O. Kilbourne, New Britain, and John A. Pilgard, Hartford.

*Franklin County Traction Company, Benton, Ill.—Incorporated to construct an electric railway from North City to Benton via Christopher. Capital stock, $50,000. Incorporators: C. W. Gardner, Christopher; E. B. Gardner and F. B. Buchanan, West Frankfort, and C. C. Baldwin, Centralia.

Sapulpa (Okla.) Electric Interurban Railway.—Incorporated in the State of Oklahoma as a successor to the Sapulpa & Interurban Railway, operating between Sapulpa, Kiefer and Glen Pool, 12 miles, and bought in under foreclosure by the bondholders on Sept. 9, 1916. Capital stock, $200,000.

*Hampton & Langley Field Railway, Hampton, Va.—Incorporated to construct a line from Hampton to the Langley aviation field, 4 miles. The line will connect with the Newport News & Hampton Railway, Gas & Electric Company. The promoters of the road are the principal owners of the Newport News & Hampton Railway, Gas & Electric Company, but the new company will maintain a separate corporate identity. Officers: J. N. Shannahan, president; F. W. Darling, vice-president, and H. R. Booker, secretary-treasurer.

FRANCHISES

Los Angeles, Cal.—The Pacific Electric Railway has asked the City Council for a fifty-year franchise to operate the proposed subway route from the Fourth Street station to Vineyard.

Waukegan, Ill.—The recent franchise submitted by the Chicago, North Shore & Milwaukee Electric Railroad has been accepted by the city of Waukegan.

Tipton, Ind.—The Tipton-Frankfort Traction Company will ask the City Council for a franchise to construct a line in Tipton. R. D. Wynn, Tipton, is reported interested. [Dec. 30, '16.]

Takoma Park, Md.—The Council of Takoma Park has voted to grant a franchise to the Washington & Maryland Railway to construct an extension from the district line, the present terminus of the line to the bridge across Sligo Creek. It is understood that upon completion of the line it will be leased to the Capital Traction Company.

Lawrence, Mass.—The Bay State Street Railway has received a franchise from the City Council of Lawrence to construct a line on Water Street from Ames Street to the Methuen line.

Worcester, Mass.—Mayor Pehr G. Homes has signed the franchise recently passed by the Board of Aldermen granting the Worcester Consolidated Street Railway permission to extend its tracks on Greenwood Street to the city line.

Milan, Ohio.—The Lake Shore Electric Railway has asked the City Council of Milan for a new twenty-five year franchise.

Maryville, Tenn.—An election will be held on Feb. 24 on the proposition to grant a franchise to the Knoxville Railway & Light Company to construct a line in Maryville. The company proposes to construct a line from Maryville to Knoxville.

Waterford, Wis.—The Milwaukee Electric Railway & Light Company has received a franchise from the City Council to furnish electric service in Waterford.

TRACK AND ROADWAY

Visalia Electric Railroad, Exeter, Cal.—The options on various strips of land through orange groves held by the Visalia Electric Railroad for the proposed route into Lindsay from a point 1 mile east of the city has expired, but an extension was granted by the owners until such time as the Railroad Commission passes on the objection raised by the Santa Fé Railroad in opposition to the electric road crossing its yards.

Martinez & Concord Interurban Railway, Martinez, Cal.—At a recent meeting held in Martinez, details of the proposition for building the Martinez & Concord Interurban Railway were discussed. It is proposed to build the road at a cost of $159,499 and to issue bonds in this amount, $90,000 to be subscribed by property owners along the route and people of Martinez who are to pay 30 per cent of their subscription when the road is built and in actual operation and the remaining 70 per cent within twenty years. It is proposed to issue twenty-five-year 6 per cent first mortgage bonds in the sum of $125,000 to sell at not less than 90 and $60,000 par value of the capital stock to sell at not less than 80. The road will be built through Martinez under the franchises heretofore granted, out the Pacheco Road to near the McMahon ranch, thence eastward to a connection with the Santa Fé Railroad near Avon and the Cowell Road and the Oakland, Antioch and Eastern Railroad at the Government Ranch. Clifford McClellan, San Francisco, is interested. [Sept. 30, '16.]

Denver (Col.) Tramway.—This company will construct a loop from the foot of Seventeenth Street in front of the Union Station,

Connecticut Company, New Haven, Conn.—The Public Utilities Commission of Connecticut has ordered the Connecticut Company to extend its line on Dixwell Avenue, Hamden, to a connection with its line into New Haven via Whitney Avenue.

Wilmington & Philadelphia Traction Company, Wilmington, Del.—This company will construct an extension on Mable Street from Vandever Avenue to its power plant.

West Coast Electric Railway, Sarasota, Fla.—It is reported that Hiram McElroy, Tampa, is making surveys for this company's proposed line from Tampa to Bradentown and Sarasota, about 50 miles. A. E. Townsend, Sarasota, general manager. [Sept. 16, '16.]

Atlanta & Anderson Electric Railway, Atlanta, Ga.—The route of the proposed Atlanta & Anderson Electric Railway has been decided upon and surveys have been begun. The line will connect with the Piedmont & Northern Electric Railway at Anderson. The road will cross the Savannah River at a point near Brown's Ferry. J. L. Murphy, Atlanta, is interested. [Dec. 16, '16.]

Chicago, Milwaukee & St. Paul Railroad, Chicago, Ill.—As noted more in detail elsewhere in this issue the Chicago, Milwaukee & St. Paul Railroad proposes to equip 220 miles of its railroad in the State of Washington for electrical operation.

Chicago, North Shore & Milwaukee Electric Railroad, Highwood, Ill.—This company will make some extensive repairs to its track on County Street, Waukegan.

Murphysboro Electric Railway, Light, Heat & Power Company, Murphysboro, Ill.—Work has been begun by this company on its extension to Carbondale and it is expected that operation will be begun by June.

Kankakee & Urbana Traction Company, Urbana, Ill.—This company is now securing franchises, permits, etc., preparatory to building an extension from Paxton to Gilman next spring.

Aurora, Elgin & Chicago Railroad, Wheaton, Ill.—Following a disagreement over franchise matters, the Aurora, Elgin & Chicago Railroad has ceased to operate cars through the city of Batavia. Cars operate now only to the city limits.

Interstate Public Service Company, Indianapolis, Ind.—This company will lay new 90-lb. rails on Washington and Third Streets, Columbus, preparatory to new paving. The track will be laid on creosoted ties embedded in concrete.

Vincennes (Ind.) Traction Company.—This company will build a baseball park near Lakewood, adjacent to Vincennes.

Wichita Railroad & Light Company, Wichita, Kan.—This company will extend its College Hill line from Roosevelt Avenue to East Street. The company is now in the market for rails for the line. It is estimated that the extension will cost about $50,000.

Orleans-Kenner Electric Railway, New Orleans, La.—A report from the Orleans-Kenner Electric Railway states that it will construct a line between Kenner and Destrehan, 6 miles.

United Railways & Electric Company, Baltimore, Md.—The new Hanover Street bridge over the Patapsco River has been completed and operation over the structure has been begun by the United Railways & Electric Company. The cost of the bridge and its approaches was $1,250,000, $150,000 of which was paid by the United Railways & Electric Company.

***Ocean City, Md.**—The Isle of Wight Land Company, Ocean City, is reported to be in the market for about 10 miles of relaying rails, 60 to 70 lb. per yard. C. Edward Shute, secretary.

Boston (Mass.) Elevated Railway.—In response to an order made by the Legislature last year, the Massachusetts Public Service Commission has sent to the Legislature a report embracing plans for extensive changes in the structure of the elevated railway on Atlantic Avenue so as to accommodate freight traffic for a short distance. It is estimated that the proposed changes would cost about $3,000,000.

Kansas City (Mo.) Railways.—This company reports that it expects to build 8 or 10 miles of new track during 1917.

United Railways, St. Louis, Mo.—Although no formal application has been made for the change, it is said that the route of the Hamilton line of the United Railways may be extended to connect it with the Market Street line. This will make it a crosstown line, extending from the Wellston loop to the Market Street line south of Forest Park. This would afford to residents of several thickly populated subdivisions and suburbs west and southwest of Forest Park an outlet with transfer privileges to east and west lines.

Chautauqua Traction Company, Jamestown, N. Y.—The Julian-Beggs Signal Company, Terre Haute, Ind., has received a contract to install signal and speed control appliances on the lines of the Chautauqua Traction Company and the Jamestown, Westfield & Northwestern Railroad. It is estimated that the cost of the installation on the two roads will be about $250,000.

Cleveland (Ohio) Railway.—A report from the Cleveland Railway states that it expects to construct 10 miles of new track during 1917.

Scioto Valley Traction Company, Columbus, Ohio.—The Scioto Valley Traction Company, in order to secure an independent entrance into the city of Columbus, has leased from the State the bed of the old canal feeder from the Lockbourne road to Main Street, 11 miles. The period of the lease is twenty-five years and the rental $6,000 per year. The bridge over the Hocking Valley Railway and the grade crossing over the Norfolk & Western Railroad, south of the city, will be eliminated. The cars will be operated from the intersection with Main Street over that thoroughfare to the proposed new union station.

Portland & Oregon City Railway, Portland, Ore.—The completion of the Portland & Oregon City Railroad between Portland and Highland at an early date was forecasted recently when representatives of the Security Savings & Trust Company, Portland, made arrangements to file a trust deed necessary to the issuance of $350,000 in bonds, money derived from the sale of same to be used in early construction. The company, which operates 15 miles of line between Portland and Bakers Bridge on the Clackamas River, plans ultimately to build a branch from Dedman Station to Oregon City. Ballasting of the 15 miles of track under operation and the construction of the line from Bakers Bridge to Highland, about 8 miles, will begin in the spring, according to present plans.

Denver & Ephrata Street Railway, Denver, Pa.—The directors of the Conestoga Traction Company have authorized the lease on completion of the Denver & Ephrata Street Railway, recently incorporated to construct a line between Denver and Ephrata, about 4 miles. [Dec. 2, '16.]

***Hershey, Pa.**—It is reported that plans are being considered for the construction of an electric railway for passenger and freight between Hershey and Reading, via Jonestown, Fredericksburg, Bethel, Rehrersburg, Strausstown, Bernville, Mt. Pleasant, etc., and that application for a charter will be made before April 1.

Philadelphia, Pa.—The installation of a trackless trolley to serve the Byberry section has been recommended by M. J. Ryan, Public Service Commissioner, in connection with plans for the extension of the Frankford elevated line to this point.

Sioux Falls (S. D.) Traction System.—This company reports that it will probably construct 2 miles of new track during 1917.

Puget Sound Traction, Light & Power Company, Seattle, Wash.—Plans are being made by the Puget Sound Traction, Light & Power Company to construct a plate-girder bridge over Lake Washington Canal at Latona.

Seattle & Rainier Valley Railway, Seattle, Wash.—This company reports that it will construct a 1-mile branch line and will reroute approximately 1 mile of its present main line.

SHOPS AND BUILDINGS

Kankakee & Urbana Traction Company, Urbana, Ill.—This company has acquired a lot in Ludlow as a future station site.

Lewiston, Augusta & Waterville Street Railway, Lewiston, Me.—This company has purchased a large tract of ground in the rear of its carhouse on Lower Lisbon Street and plans to construct a new paint shop.

Worcester (Mass.) Consolidated Street Railway.—This company will construct a freight station on Shrewsbury Street, adjoining Boulevard Park.

Buffalo & Lake Erie Traction Company, Buffalo, N. Y.—A new passenger station will be built by the Buffalo & Lake Erie Traction Company in Irving.

Southern Traction Company, Dallas, Tex.—This company plans to construct a new interurban passenger and freight station in Waco.

POWER HOUSES AND SUBSTATIONS

Iowa Railway & Light Company, Cedar Rapids, Iowa.—This company is constructing a new power plant in Perry, the buildings being practically completed. The company is extending its service in the vicinity of Perry, and the new plant will be used to supply the demand for energy.

Centerville Light & Traction Company, Centerville, Iowa.—This company will install in its powerhouse one 2500-kw. turbine and condenser, one cooling pond and two 500-hp. boilers, and will build one stack. The company will also erect 30 miles of 33,000-volt transmission line.

Kentucky Traction & Terminal Company, Lexington, Ky.—This company has begun the installation of a new steam boiler and a 4000-kw. generator at its power house in Lexington.

Hagerstown & Frederick Railway, Frederick, Md.—A contract has been let by the Hagerstown & Frederick Railway for the installation of a 9000-hp. steam turbine-driven electric generator with auxiliaries as an addition to the power output of the company's plant at Security, which, when completed, will give the power station at Security a capacity of 15,000 hp.

Great Northern Railroad, St. Paul, Minn.—The Great Northern Railroad plans to construct a 120,000-hp. plant at Lake Chelan which will generate energy for electrifying the Cascade division. The proposed plant will cost about $5,000,000.

Interborough Rapid Transit Company, New York, N. Y.—This company has acquired property on East Fifty-seventh Street between Third and Lexington Avenues for the purpose of erecting a transformer station to distribute electric current for the operation of trains in the new Lexington Avenue subway and other lines which the company operates. Plans are being prepared by the company for the construction of a substation at 150 West Sixteenth Street, to cost about $40,000.

Manufactures and Markets

Discussions of Industrial Conditions
A Department for the Manufacturer, Salesman and Purchasing Agent
Rolling Stock Purchases Business Announcements Trade Literature

Good Year for Coasting Recorders and Accessories Predicted

Many Orders Reported—Deliveries Slow—Material Problems Complex—Production for Next Six Months Contracted For—Progress Being Made

According to C. C. Chappelle, vice-president and consulting engineer of the Railway Improvement Company, New York, indications point to a large volume of business in the sale of coasting recorders, terminal clocks, sanitary straps, anti-climbers, etc., for the coming year, even exceeding that of last year, which from the viewpoint of many manufacturers of railway accessories was the most prosperous year for more than a decade. Inquiries were fairly active during the early summer months of last year, but since that time the market has picked up considerably and a number of large orders have been placed. At the present time this company has orders on hand that will absorb in excess of 50 per cent of the 1917 production, and prospective orders pending indicate the company's production will be taxed throughout the year.

Material Problems Complex

The coasting recorder, which forms the greatest volume of this company's product, is an assembled machine consisting of a clock mechanism recording device, with its electrical relay for connection with the car wiring.

During the middle of last year the factory had a considerable stock of material such as steel, sheet brass and copper wire, but the scarcity of skilled labor at that time was a handicap to production. This condition obviously caused considerable wage increase. At a later period the availability of labor had improved, but the manufacturer faced a shortage of raw material that tended to continue the curtailment of production.

The company always has endeavored to make deliveries dependent upon the purchaser's ability to install the coasting recorder equipments. As a rule the company has been able to make shipments for installation as fast as the purchaser's cars are available for equipment. For instance, if one company places a large order it is only necessary to make deliveries in accordance with that company's schedule for availability of its cars. In changing from summer cars to the regular equipment it is common practice to leave the relay and wiring intact on the car, removing only the coasting recorders.

Prices Fluctuate with Copper and Steel Market

Regardless of the rising costs of material and the numerous delays in obtaining it, this company did not at first increase its prices but pursued a policy of watchful waiting, as the conditions were considered abnormal. As soon as the surplus supply of raw material was exhausted and it was apparent that the basic materials for the product—copper, steel, etc.—would continue to rise, the company was forced to increase prices. These increases amounted to only about 10 per cent, with the exception of that for Rico anti-climbers, which was approximately 50 per cent. This was because a surplus of anti-climber material had been rolled on the special rolls owned by the company previous to the advance in materials, and when the stock was exhausted the price was increased in even less proportion than the increase in price of raw material.

Progress Being Made

The experience of the past few years has proved that the electric railways are adopting certain standard devices in car equipment, and these are usually specified when an order for cars is placed. That real progress by the railways is being made is evident from the fact that many accessories—anti-friction journal bearings, improved fare boxes, coasting recorders, trolley retrievers, anti-climbers, sanitary straps, pneumatic door engines, etc.—are now in common use.

The requirements for a proper knowledge of traffic conditions which will permit not only of proper conservation of power but also economical schedule speeds make necessary the collection of data from which the existing transportation conditions can be analyzed. With this idea in view the company is developing a coasting and service recorder which will record accurately and automatically the number and duration of stops, running time, coasting time—in fact, will keep an absolute check on the changing factors constantly encountered in transportation service.

The cost of power for railways has materially increased, due to higher fuel and labor costs, and more thought is now being given to the need of its conservation. In view of the fact that the rate of fare is fixed and that costs of operation and overhead are increasing, the available method for maintaining the necessary financial status of a property is by reduction of operating expenses through every possible means of increased efficiency in operation.

Wheelmakers Favor Standardization of Flanges

Chilled Iron Wheel Renewals 2,500,000 Annually—Concentrating Efforts to Improve Product—Standardization Will Simplify Wheelmakers' Problems

The Association of Manufacturers of Chilled Car Wheels, of which George W. Lyndon, McCormick Building, Chicago, is president, represents wheel-casting plants having a capacity of 20,000 wheels per day. The annual wheel renewals for steam and electric railways, according to Mr. Lyndon, amount to 2,500,000 wheels per year, and this figure does not include the requirements for new cars. All the members of the association have had a satisfactory year and look forward to even better business for 1917, providing the car builders are able to turn out their orders on schedule. Just now, not many of the wheel plants are running at full capacity because of the scarcity of labor.

Association Favors Standardization

This association, through its president, has expressed its hearty appreciation of the standardization work being carried on by the committees of the American Electric Railway Engineering Association. It is ready to co-operate to the fullest extent in the standardization of wheel flanges for city and interurban work.

Speaking of the need for standardization of wheel flanges in interurban service, Mr. Lyndon pointed out that a great many interurban roads are handling M. C. B. equipment. Some roads in connection with steam affiliations are using joint tracks, and all roads are tending toward higher speeds. As a natural consequence the requirements of heavy interurban service indicate the need for the use of a flange with a contour as near that of the M. C. B. standard flange as can be operated. Standardization of the flange, of course, would simplify the wheel makers' problem so far as furnishing equipment for interurban cars is concerned.

On the other hand, Mr. Lyndon says, there are many sections of rail in city properties that forbid the use of the M. C. B. flange, and so one of smaller dimensions must generally be chosen. The tendency throughout the country is to recommend a flange somewhat like the M. C. B., but flatter, say ⅝ in. in height.

The Chilled Iron Wheel Association members are concentrating their efforts on the improvement of their product.

At the engineering experimental station of the University of Illinois elaborate testing equipment has been put at the disposition of the wheel makers, and special studies are now being made. One of these includes an investigation of the stresses in all parts of the wheel, not only the stresses in the outer part of the wheel due to brake heating but also those in the hub and plate due to pressing the wheel onto the axle. Mr. Lyndon says that Dean Goss of the University of Illinois considers the work being done at the experimental station not only of great interest to the institution, because of its technical nature, but also of value to the public, because wheel service is such an important factor in successful transportation.

Helping Small Manufacturers in Export Trade

The full report now available for the Fourth National Foreign Trade Convention, held in Pittsburgh, Pa., on Jan. 25-27, shows that the most popular group sessions were those devoted to the foreign trade problems of the small manufacturer and merchant. The dependence of foreign trade on foreign investment, on banking facilities and a sound shipping policy was strongly emphasized, however, and, as stated in the preliminary report in last week's issue, the dominant note of the whole convention was co-operation.

Practically every problem of foreign trade expansion that confronts the small manufacturer and merchant when he desires to sell overseas had been covered in advance by a series of questions and answers, available to the convention in pamphlet form. These questions and answers served to draw out a great variety and volume of valuable experiences of the manufacturers and merchants present.

The sentiment of the convention, as a whole, was summed up in the report of the general convention committee. As has been customary in the past, no resolutions were presented. The committee merely reported what it considered to be the consensus of the convention, as developed in the papers and discussions. The development of foreign trade was said to depend upon the resources and enterprise of this country and on the education of a body of young men fitted for the demands of foreign trade and anxious to participate therein. It depends further on the participation of a large number of moderate-sized firms. The government can help in many directions by securing suitable commercial treaties, by collecting from abroad and disseminating here information regarding foreign requirements, by permitting co-operation, etc. The need for the prompt passage of the Webb bill was emphasized, while the necessity for a sound shipping policy, for straightening out the treaty situation and for a flexible tariff was discussed.

The present officers of the National Foreign Trade Council who were elected at the annual meeting held last fall are as follows: Chairman, James A. Farrell, who is president of the United States Steel Corporation; treasurer, Walter L. Clark, and secretary, Robert H. Patchin.

Future Business Prospects—Effect of Peace

According to the current review of the National City Bank, the first month of the new year has given good promise for a continuance of prosperity. The leading industries of the country made large profits last year, and are in a very strong position financially. Indebtedness has been paid or reduced, working capital has been increased, capacity has been enlarged and efficiency improved by expenditures in many instances long contemplated and finally made possible by the unusual earnings. The outlook for business is excellent, with bookings of firm orders sufficient to assure general industrial activity well into the last half of the year. The probably effects of peace upon industry are significant. A considerable readjustment of prices will be necessary and the demoralizing influence of falling prices are fully appreciated. However, manufacturers are buying materials with that thought uppermost, but current trade is on the largest scale ever known and provision must be constantly made for it.

The most talked of factor in the situation is the car shortage, which results less from an actual shortage of cars than from inability to keep the traffic moving freely. The situation, instead of being a temporary and passing one, seems to be due to the unparalleled expansion of industry, which has produced a volume of freight beyond the loading, unloading and warehousing facilities of the public, and the switching and terminal facilities of the railways.

Building operations reached record proportions in 1916, and at present the outlook is for another equally active year. The prices of all building materials are very firm or still tending upward.

The year starts out with money much the cheapest commodity or form of capital in sight, and if the business community attempts to use these abundant supplies the effect will be to lift wages and the prices of all materials still higher. The circle of rising wages and prices narrows as it moves upward, because everybody's income and purchasing power do not increase in the same proportion, and prudent men hesitate to make capital investments on an inflated basis.

Business has been so good during the past year that a great many producers have accumulated large profits and are more independent of borrowing facilities than heretofore. They are conservative about dividends, and intend to keep themselves forehanded.

The general level of bond prices continues to hold firm. The average price of forty listed bonds as compiled by the *Wall Street Journal* was 96.11 Jan. 26 compared with 94.97 Dec. 26. The advance has been especially noticeable in railroad issues.

CURRENT PRICES FOR MATERIALS

Quoted Thursday, Feb. 1.

Copper (electrolytic)	New York, 33 cents per pound
Rubber-covered wire (base)	New York, 38 cents per pound
No. 0000 feeder cable (bare)	New York, 35 cents per pound
No. 6 copper wire (bare)	New York 35 cents per pound
Tin (straits)	New York, 45¾ cents per pound
Lead	New York, 8 cents per pound
Spelter	New York, 10¾ cents per pound
Rails, A. S. C. E., O. H.	Mill, $40 per gross ton
Rails, A. S C. E, Bess	Mill, $38 per gross ton
Wire nails	Pittsburgh, $3 per 100 pounds
Steel (bars)	Pittsburgh, 3.25 cents per pound
Sheet iron (black, 28 gage)	Pittsburgh, 4.50 cents per pound
Sheet iron (galv., 28 gage)	Pittsburgh, 6.25 cents per pound
I-beams over 15 in.	Pittsburgh, 10 cents per pound
½-in. galv. extra high strength steel wire,	New York, $6.82 per 100 ft.
⅜-in. galv. high strength steel wire	New York, $3.41 per 100 ft.
⅜-in. galv. Siemens-Martin wire	New York. $2.52 per 100 ft.
5/16-in. galv. Siemens-Martin wire	New York, $1.94 per 100 ft.
Galvanized wire (ordinary)	Pittsburgh, 3.65 cents per pound
Cement (carload lots) without rebate for sacks,	New York, $2.07 per barrel
Cement (carload lots)	Chicago, $1.96 per barrel
Cement (carload lots)	Seattle, $2.60 per barrel
Sand in large lots	New York, 50 cents per ton
Sand in large lots	Chicago, $1.25 per ton
Linseed oil (raw, 5-bbl. lots)	New York, 96 cents per gallon
Linseed oil (boiled, 5-bbl. lots)	New York, 97 cents per gallon
White lead (100-lb. keg)	New York, 9¾ cents per pound
Turpentine (bbl. lots)	New York, 54½ cents per gallon

OLD METAL PRICES

Copper (heavy)	New York, 28½ cents per pound
Copper (light)	New York, 24 cents per pound
Red brass	New York, 19 cents per pound
Yellow brass	New York, 18 cents per pound
Lead	New York, 6.75 cents per pound
Steel car axles	Chicago, $34 per net ton
Zinc	8 cents per pound
Iron car wheels	Chicago, $18.50 per gross ton
Steel rail (scrap)	Chicago, $24.50 per gross ton
Steel rail (relaying)	Chicago, $30 per gross ton
Machine shop turnings	Chicago, $9.25 per net ton

New York Railways to Be Equipped with Coasting Recorders

The New York Railways has just placed an order with the Railway Improvement Company for Rico coasting recorders to take care of its 1842 cars. With this order, all of the large electric railways operating in or entering New York will be equipped with Rico coasting recorders as follows: Interborough, elevated and subway, including the Corona and Astoria lines in Queens, 1718; Third Avenue Railway System, including Yonkers Railroad, Westchester Electric Railroad, 1125; Brooklyn Rapid Transit System for 300 New York Municipal subway cars; Hudson & Manhattan Railroad, 200; Long Island Railroad, 55; making a grand total of 5240.

ROLLING STOCK

Shreveport (La.) Railways has ordered four new light-weight, single-truck, double-end cars.

Wheeling (W. Va.) Traction Company is reported to be in the market for eight pay-as-you-enter cars.

Austin (Tex.) Street Railway has ordered seven light-weight, single-truck, double-end cars from the American Car Company.

North Carolina Public Service Company, Greensboro, N. C., has ordered fifteen light-weight, single-truck, double-end cars from the American Car Company.

Wichita Railroad & Light Company, Wichita, Kan., has ordered fifteen light-weight, single-truck, single-end cars from the St. Louis Car Company.

Urbana & Champaign Railway, Gas and Electric Company, Champaign, Ill., has added a snow-sweeper to its equipment.

Indiana Railway & Lighting Company, Kokomo, Ind., is in the market for two 35-ft. two-man, double-truck, double-entrance pay-as-you-enter motor cars for city service.

Ottawa Car Manufacturing Company, Ltd., Ottawa, Canada, has received an order from the Ottawa Electric Railway for three 38-ft., single-end, double-truck, semi-steel cars.

Chicago, North Shore & Milwaukee Railroad, Highwood, Ill., has been authorized by the Public Service Commission of Illinois to issue $170,000 of equipment gold notes, the proceeds to be used for the purchase of fifteen steel cars.

Kansas City (Mo.) Railways during the coming year expect to purchase twenty-five cars at a cost of approximately $150,000. Coasting clocks or recorders will be installed on these cars.

Northern Ohio Traction & Light Company, Akron, Ohio, lost eight cars recently at Massillon in a fire which destroyed the company's substation and carhouse. The total loss was about $50,000.

Public Service Railway, Newark, N. J., noted in the ELECTRIC RAILWAY JOURNAL of January 27, has purchased at this time, seventy-five quadruple West. 514-C motor equipments with HLD control and twenty-five double West. 307-CV motor equipments with HL control. The GE No. 200 motors with PC control mentioned were ordered early in the fall and were noted in the ELECTRIC RAILWAY JOURNAL for September 30, 1916.

TRADE NOTES

H. D. Gumpper, who was formerly associated with the Emerson Company, efficiency engineers, has joined the electric truck sales department of the Buda Company, Chicago.

Diehl Manufacturing Company, Elizabeth, N. J., announces the change of address of its Chicago storeroom and repair department to 313 South Clinton Street.

Philadelphia Holding Company, Philadelphia, Pa., has received an order from the Fishkill Electric Railway for four radial trucks and also an order for one radial truck from the Levis County Railroad, Quebec, Canada.

Safety Car Devices Company, St. Louis, Mo., announces that it has received orders for air brake and safety-control equipment to be used on the cars being constructed for the following companies: Wichita Railroad & Light Company, fifteen cars; North Carolina Public Service Company, fifteen cars; Austin Street Railway, seven cars, and the Shreveport Railways, four cars.

Horne Manufacturing Company, 50 Court Street, Brooklyn, N. Y., announces that Albert C. Henry has been elected president of the company, and will now devote a considerable amount of his time to the electric railways in the vicinity of New York City. Mr. Henry was formerly connected with the Cooley Manufacturing Company, and with the National Carbon Company.

R. H. Beaumont Company, Philadelphia, Pa., builder of coal- and ash-handling machinery, etc., announces the opening of a New York office in the Hudson Terminal Building, 50 Church Street. The office will be in the charge of William P. Alexander, who has been associated with the company for a number of years in the capacity of field superintendent, assistant chief engineer and sales engineer.

Charles H. Clark, engineer maintenance of way, Cleveland Railways Company, has recently received orders for the Clark pavement plow from the United Railways, St. Louis; the Twin City Rapid Transit Company, Minneapolis; the Brooklyn Rapid Transit Company and the Public Service Railway, Newark, N. J. These plows are in use at present in Detroit, Boston, Buffalo and Cleveland.

Harry T. Bigelow, who for sixteen years was Western representative of the Hale & Kilburn Company, has decided to re-enter the railway supply field and is organizing a strong company to take a general line of specialties for use among the electric and steam railroads. Mr. Bigelow found it necessary about five years ago to retire from active work because of ill health. His many friends in the railway field will be pleased to learn that he is again to become active in the supply field. It has not yet been announced what products he will handle.

American Railways Equipment Company, Dayton, Ohio, announces the completion of its organization for the manufacture and sales of the American coin-ticket registering fare box. Adam Schantz, representing the industrial committee of the Greater Dayton Chamber of Commerce and associated capitalists, supervised the financing of the company. D. B. Whistler, inventor and patentee of the fare box, is president and general manager. Under the new organization, plans have been effected for manufacturing the fare boxes on a scale to meet requirements. The company has recently received an order from the City Railway of Dayton to equip all its cars with American coin-ticket registering fare boxes. More than 100 fare boxes will be required to complete the order.

ADVERTISING LITERATURE

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., has just issued a catalog on "Arc Lamps and Lighting Systems."

Morse Chain Company, Ithaca, N. Y., has issued publication No. 15, "A Chain of Evidence," which deals with power drives of less than 100 hp. each.

Composite Metal Lath Company, 128 Broadway, New York, N. Y., has issued a circular showing a cut of a 2¼-in. electric cable illustrating the use of brick lath as a base for protecting cables in manholes from fire.

Cement Gun Construction Company, Chicago, Ill., has issued bulletin No. 5 on "Gun Crete for Protection." This bulletin gives a number of illustrations of buildings protected by this waterproof and fireproof material, which is composed of cement and sand.

Spray Engineering Company, Boston, Mass., has issued bulletin No. 250 which illustrates and describes its "Spraco" equipment for washing and cooling the ventilating air for steam turbine-driven generators and other equipment.

NEW PUBLICATIONS

United States Government Specifications for Portland Cement. Bureau of Standards, Department of Commerce, Washington, D. C., Circular No. 33. Forty-three pages. Paper.

The third edition of this specification is now ready for distribution and can be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 10 cents per copy.

Les Chemins de Fer en Angleterre, by J. Carlier and H. Dedroog. A reprint from Le Génie Civil, 6, Rue de la Chaussée-d'Antin, Paris, 1916. 168 pages. Paper.

This reprint contains a series of articles on steam railroads and heavy electrifications in England. The authors are Belgian railway engineers, temporarily residing in England. They have compiled data on the principal railway systems, arranging them topically and commenting upon the tendencies indicated by their studies. In the electrical section chapters are devoted to general considerations, line, power generation and distribution, finances and conclusions.