

Electric Railway Journal

Consolidation of *Street Railway Journal* and *Electric Railway Review*

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Applying an Old Principle in New Ways at Camden

IN AN ADDRESS before the American Electric Railway Association at Atlantic City last October Martin Schreiber of the Public Service Railway of New Jersey impressed his auditors with the fact that he appreciated to an unusual degree the importance of co-operation in organization. Moreover, he aimed to apply this principle in his own way on the portion of the Public Service property of which he had then recently been appointed manager.

Already Mr. Schreiber has been able to try out some of his ideas, and the results are as expected. A number of the things that have been done are outlined elsewhere in this issue. The article may be considered the *ELECTRIC RAILWAY JOURNAL'S* supplement to the Atlantic City convention address.

The best single "stunt" is the maintaining of close contact between the "service committee," comprising principally the heads of departments, and the actual problems of the property. This is accomplished in part by taking the committee bodily to the places where the problems originate. Such procedure requires a little time, but this expenditure is soon repaid through the economies achieved as a result of the conferences. The minutes of the conferences, which are kept in detail, show that this plan for holding committee meetings is mentally stimulating.

Camden is a city which presents unusually complicated transportation problems. The traffic is largely of the "rush-hour" variety, involving a low "load factor" in the use of the rolling stock. The difficulties were particularly acute during the war period. The conditions render close teamwork on the part of the personnel especially desirable. Those who ought to know say that such teamwork is conspicuous at Camden. The result will undoubtedly show on the ledger in due course.

Making the Schedule More Scientific

THE urgency of decreasing the ratio of outgo to income in electric railway operation has become so acute that schedule making now assumes a position of prime importance. It comes down to the proposition of giving good and constantly better service on one hand, while relatively increasing the revenue passengers per car-mile operated without unnecessary overcrowding.

There is today perhaps no greater opportunity for economy in electric railway operation than in correct schedule making. Savings at this point, at the present prices for labor, quickly reach so large a sum that any possibilities of improvement in this line warrant the most careful study on the part of the transportation department. But good schedule making requires expert schedule makers, of a type not needed, or not known to be needed, a few years back.

The art of the schedule maker is not an easy one. In the first place, if too few cars are run, possible traffic is lost, while if too many are scheduled, there is a waste in car-miles. The schedule maker has not only to determine the right number for the different hours of the day and where the cars are to be turned back but also how the schedule must be varied according to the weather, the day of the week, and the season and special events. Then he has to fit the desirable car schedule so determined with a suitable crew schedule, and then allow provision so that both can be changed quickly in case of emergency or blockade, without disturbance to the operation of the cars on the rest of the line. At the same time he must keep within the run limitations and outside time of workday set by agreements with employees. This work is arduous and complicated, since it demands a constant scrutiny of the factors whose change may affect existing conditions. Nevertheless, perhaps because it calls for this vigilance, it is fascinating and carries an especial appeal to the man who likes to solve problems in a field that is constantly changing, as is the case with city traffic.

Personally, we believe that graphical methods could be used in drafting and checking scheduled headways and car flow over crossings and through congested districts to a much greater extent than has been done in the past. The problem is essentially one of proportion and the adjustments of various factors to each other so as to give a harmonious whole, and for problems like this graphical methods are particularly suitable. They not only supply the means for obtaining an answer but they seem also better adapted to expose any serious defect in a proposed schedule than if a numerical method was exclusively used.

C. E. R. A. Awakens to Renewed Purpose and Activity

MUCH important history has been made in the past by the Central Electric Railway Association, but with the trying conditions faced by many of the members at home during the past three years the association could not be as much of a factor in their affairs. Hence it is not surprising that the program of the recent meeting at Toledo should have included as one topic for consideration "The Future of the C. E. R. A." It is pleasant to record that this taking stock of past accomplishments and future activities resulted in such a rejuvenation of the spirit of the association that the meeting took on the interest and importance which was characteristic of the association gatherings before the war.

Far from having served its purpose and being no longer vital, there developed a consciousness that the association is more than ever needed by the members and that it has only made a start on the great work to be done. Realizing this, the members laid plans for the future which bid fair again to make important history

in the development of the great interurban railway system of the central states.

Chief among the plans tentatively proposed and upon which the executive committee will take action at its next meeting are the provision for separate meetings for the engineering and operating officials and the employment of an executive manager of the association. This manager would be the active head in executing all work planned by the organization, in directing and following up the work of all committees and in relieving committee chairmen of a large part of the detail now incumbent upon them, and which in many instances they have been unable to handle adequately either through lack of time or facilities.

It would seem that the goal of operating efficiency and development to which the Central Electric Railway Association should logically strive would be so to unite the member companies in standardizing operating practices, equipment and construction that they would be operated as one great electric railway system, with a service of kind and quality and extending where and when the natural lanes of travel of the public would dictate. An executive manager of the right caliber would be of great value to the association, both in the degree of attainment toward this desired goal and in shortening the time which would be required for that accomplishment.

The provision for separate meetings for the engineers will also be an important step in hastening more efficient and more prosperous days for the member companies, and it is a plan which this paper has strongly advocated on several occasions. The very fact that the subject has been brought up repeatedly at association meetings and has not been stifled by the failure of the executives to meet the suggestions of the operating men in a measure bespeaks the worth of the plan. Just what form of organization should be arranged is of less importance than the primary idea of providing gatherings at which men may meet with other men who talk the same language and are struggling with the same problems.

The plan suggested by the *ELECTRIC RAILWAY JOURNAL* in the issue of Dec. 11, 1920, it is believed, would be suitable. There it was proposed that the executive committee simply authorize meetings, in the nature of committees of the whole, of the equipment, track and electrical men respectively, at which problems pertinent to their particular work could be freely discussed without the feeling of restraint which many men have in the presence of their boss, as in the meetings of the main association. Each of these group committees would have a chairman appointed by the president, who in turn could appoint subcommittees to take up special problems. The chairmen would also bring up in the general session any matters approved by the committee requiring association approval. These group meetings could be held independently of the regular association meetings, or, better, in conjunction with them, or both plans could be followed if more meetings seemed desirable.

Whatever way may be devised, it is certainly to be hoped that the executive committee will now provide definitely for gatherings which will serve the purposes of the engineers and manufacturers, for it has been pretty well established by the experience of other railway associations that such meetings are of very great value to the individual companies, to the men who take part in them and to the industry.

Higher Municipal Expenses Increase Taxes

GOVERNOR MILLER'S recent message to the New York Legislature contained one sentence which, if fully appreciated by the public, would puncture the balloon in which many a political demagogue hopes to ride to office. This statement was as follows: "The people who ride in the subways do not realize that, in addition to their fares, they are paying to maintain \$200,000,000 of subway bonds, and it does not matter whether they are taxpayers or rentpayers."

Nearly every person is a taxpayer or a rentpayer, and if he is not in either of these classes he is an indirect contributor as a food consumer. In other words, he is an unconscious taxpayer, and for this reason he should be interested in any proposal to add to the tax burden of his community. The statement given referred to the situation in New York City, but taxpayers and rentpayers are not confined to that community. Wherever a city plans to increase taxes or takes steps which may increase them every citizen is concerned.

Chicago is such a city, because just now there is pending in the Illinois State Legislature a bill for the creation about Chicago of a "local transportation district," a new taxing body designed by Mayor Thompson to take over and operate the surface lines. This "district" would have authority to issue bonds to an amount not exceeding 5 per cent of the value of taxable property. The limit of this taxing power has been estimated as being anywhere from \$80,000,000 to \$160,000,000, and the taxes thereby raised would be available to make up any municipal railway deficit not covered by a fare which is not to exceed 5 cents. Supporters of the Thompson plan have assured some doubting persons that there is not much possibility of having to resort to the taxing powers of the "district."

It is quite possible that if the proposition gets as far as a public referendum it will be indorsed, because a majority of the car riders would like to get back to the 5-cent fare and feel that they need not worry about the "other fellow's" taxes. They say, "Let the property owner worry." Nevertheless, the rentpayers of Chicago, like those of most other cities, are just now clamoring for relief against increasing rentals. The landlords argue that rents would not be so high if taxes and other expenses were lower. Rents certainly will not decline when taxes are being increased. So the tenant who votes for a 5-cent fare under a plan where deficits may be covered by general taxation is very likely to find that he is paying part of those taxes and that by the end of a year he has contributed more than would have been the case under a higher rate of fare without taxation.

When voters come to a full understanding of this fact it will not be easy to fool them. It is natural that they should want to have transportation at the lowest possible cost. The report of a municipally operated railway system sounds attractive because bookkeeping methods will often permit of disguising expenses such as taxes which other companies have to charge against the rate of fare. The turning point will come when the unconscious taxpayer realizes that he is helping the direct taxpayer to carry the burden, and to make him understand this is an important part of the educational work to be done by the companies.

A Full Understanding Should Precede Wage Readjustment

EVERY electric railway company will soon have to decide what it will do in the matter of wage readjustment. Unfortunately for the industry, not much attention has been paid to this subject in recent association meetings, national or sectional, in open session or private conference. The need for such a discussion is not that there shall be concerted action, but there should be an understanding by individual managements of the principles which ought to govern, because the policy followed in one city will undoubtedly have effect elsewhere.

Wage reductions will probably come first with two classes of roads. One consists of those properties where strong labor action has forced the scale to unusually high levels. The second comprises those companies where the fare increases have been slight. In the former case, the discrepancy between the railway wages and those paid in other industries will be so marked that public opinion as well as the self-interest of the company will require a reduction. In the latter case the cut in wages will have to be made because further fare increases will be difficult to obtain.

The fact that wages in other lines are being reduced is not necessarily a good reason for electric railways to do the same immediately or reduce to the same extent. A delay will help to secure and hold to the company the better grade of men obtainable under a generous scale and make up for some of the poor labor that had to be put up with when the high wages of industrials robbed the railways of many of their best workmen.

In the case of companies operating under a service-at-cost franchise, a reduction of wages would lower the rate of fare automatically, and eventually the same result will follow with companies not having a service-at-cost franchise, if a profit is being made. It would be eminently fair, however, for the railways to have a certain amount of economic lag between reduced expenses and reduced income, just as there was such a lag during the upward drive of prices. Such an interval or period of grace on the downward part of the cycle would permit the companies to do something to rehabilitate their physical properties, something now greatly needed. Such a policy in turn would help to keep down fares in the future, because the most economical operation is obtained with property well maintained. In the final analysis, of course, the wages paid by electric railways will have to be based largely on the market price for work of that same general nature, and it should be remembered that while employees for platform service have to meet rather strict physical, moral and mental standards, the period of apprenticeship required to qualify for work is far less than in what are known as the skilled trades. This does not mean that electric railway wages will soon be at their pre-war level or even will be reduced proportion-

ately to the reductions in wages in other industries. Such a condition would be unfortunate, because, judged by the average turnover on many electric railways before the war, the wages for platform men at that time were too low.

As has been pointed out in these columns, the fact that wages will have to be reduced does not mean that a horizontal reduction of the present scale proportionate with the decline in the cost of living should necessarily be made or that all of the reduction should be made by a horizontal cut. Much can be done in the way of tightening up on bonus time, on lay-over time and on time paid for but not worked, and perhaps by a slight adjustment of the maximum and minimum day. If such changes will mean greater efficiency, labor should be for them. Another relief measure would be to add several lower steps to the present scale of wages, as by beginning new men at a lower scale and lengthening out the period of service before the present high rates are reached. A longer scale period than the one or two years established by the War Labor Board is justified, and this is one way of securing it.

Whatever is done, managements should not be without a thorough appreciation of the labor point of view. It is believed that a reasonable reduction can be secured without trouble, but the companies should not attempt a return to those days of extremely low pay when service was given at the expense of the employees and of maintenance and depreciation reserve.

Let the Suburban Roads Do the Suburban Traffic

AT THIS time last year there was a shortage of approximately 150,000 freight cars and shippers were urged to economize by taking the shortest time possible for loading and unloading cars and shipping full carloads. According to a recent report of the Car Service Committee to the Interstate Commerce Commission there were at that time 358,065 surplus freight cars on the railroads of the country, and it is obvious to any one who does much traveling that the passenger business has also fallen off. With these conditions it would not be surprising if the steam railroads, which in the past have affected to scorn the short-distance suburban business, would make an attempt to cultivate it.

Such a plan would not be in the interest of real economy. The steam railroads, with the expensive terminals which they use for this short distance travel, undoubtedly lose money on it when it requires facilities which otherwise could be used for the profitable part of their business, long-distance passenger and freight haulage. On the other hand, the interurban electric lines can conduct this business at a profit. Steam railroads which now have a commuter business may not be prepared to abandon it, but further investment, particularly in property like terminals, which cannot be used elsewhere, should be considered askance.

Quotation from the Federal Electric Railways Commission Report

No. 10

THE full co-operation of labor is essential to the highest prosperity and the usefulness of the industry. The employees engaged in this occupation should have a living wage and humane hours of labor and working conditions. They should have the right to deal collectively with their employers, through committees or representatives of their own selection. All labor disputes should be settled voluntarily or by arbitration, and the award of such a board should be final and binding upon both parties. It is intolerable that the transportation service of a city should be subject to occasional paralysis, whether by strikes or by lockouts.

Better Transportation for Camden

A New Organization Takes Hold of the Southern Division of the Public Service Railway of New Jersey — An Active Effort Being Made to Promote a Spirit of Co-operation in Personnel of the Division—
Formation of a Company Section of American Association Considered Highly Desirable in This Connection



THE SERVICE COMMITTEE IN FRONT OF ITS MOVABLE MEETING QUARTERS

Left to right, T. E. Babcock, F. B. Summers, H. C. Stevenson, Martin Schreiber, Chairman; R. A. McArthur, J. Walter Wright, J. Hanf, J. N. Waters, C. V. Wallace, G. A. Rothery, Secretary, and William H. Wright

THE Southern Division of the Public Service Railway, which centers in Camden, N. J., is in many ways like a detached property because it is separated by a considerable distance from the divisions which comprise the main mileage of the property. During the war the shipbuilding and other abnormally augmented industries brought unusual prosperity to the district, which, however, did not extend to the railway company, but it is now suffering somewhat of a post-war slump. However, there are many substantial manufacturing properties within the Southern Division territory, such as that of the Victor Talking Machine Company, and there is heavy traffic to and from Philadelphia, a part of the suburbs of which the Camden region is.

The Southern Division operates 155 cars and employs about 1,000 persons all told. Last summer Martin Schreiber, chief engineer of the company, was appointed manager of this division, with sufficient authority to apply such methods as he deems wise. Since then he has had opportunity to apply a number of them on the property.

The groundwork of the scheme now under way in Camden was first explained in a paper by Mr. Schreiber before the convention of the American Electric Railway Association at Atlantic City last October. The plan is based first on a carefully selected, progressive, supervising organization. This organization is so co-ordinated with the rank and file that every man has a voice

in the creating of the orders under which he labors, as well as in the carrying out of his particular part of the transportation work.

The organization "heads up" in a "service committee," comprising principally the heads of departments. This meets weekly for the purpose of discussing principles and details of the work of the several departments. The meeting place is a special car belonging to the division, which is taken out over one line at a time, visiting points of administrative interest. The meetings consume about three hours on the morning of Friday, the day preceding the weekly conference of general department heads at Newark, which is attended by Mr. Schreiber.

MAKE-UP OF SERVICE COMMITTEE

The make-up of the service committee at present comprises, in addition to the manager, the following: R. A. McArthur, superintendent of transportation; T. E. Babcock, claim agent; J. Hanf, master mechanic; J. W. Wright, superintendent of maintenance of way; C. V. Wallace, superintendent of employment and instruction; F. B. Summers, storekeeper; J. N. Waters, engineer; W. H. Wright, superintendent of distribution, and G. A. Rothery, chief clerk and editor of "All-Together," an employees' periodical leaflet. H. C. Stevenson, who is assistant to the president and is in charge of public relations of the Southern Division, also sits in with the committee.

Mr. Rothery acts as secretary of the service committee meetings and keeps full and accurate minutes, which are of great value in conserving the many excellent suggestions made by heads of departments.

SPEEDING LOADING AT THE FERRY TERMINAL

The point of greatest traffic congestion on the Southern Division is at the Philadelphia ferry terminal in Camden. Here many of the lines terminate, and the installation of a prepayment inclosure for the two loop


The service committee is endeavoring to formulate a logical publicity policy. Under war conditions the service became unpopular, due partly to the influx of aliens to the war industries. It became quite the thing to do to "knock" Public Service. To counteract this the committee is endeavoring to take the standpoint of the public and has adopted an emblem containing the slogan "Public Service—Safety, Service, Satisfaction." The last three words were chosen because they represent what the public wants of the railway and what the railway is trying to furnish.

AN ALL-ROUND EMPLOYMENT DEPARTMENT

Coming now to the employees, the first point of interest is the department of employment and instruction for the entire body of employees. It is what might properly be called a personnel department, and is highly organized. This department is in charge of C. V. Wallace, who previously was engaged in somewhat similar work for the Philadelphia Rapid Transit Company.

The functions of the department are these: (1) Development of sources and channels of labor supply; (2) selection of suitable applicants for positions on requisition by a head of a department; (3) introduction of new employees into service; (4) supervision of training and following up of new employees; (5) transfers

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ALL - TOGETHER

MERRY XMAS.

As this is our Christmæ edition, we take this opportunity of wishing each and every one a Merry Christmæ and trust that old man Santa brings you all you want and then some.

THE FIRST EDITION.

All we can do is offer apologies to those who did not receive a copy of the first edition of ALL-TOGETHER, but arrangements are being made to have sufficient from now on.

10¢ FARE APPLICATION.

According to the papers, a number of people are going to try to stop our getting a fare increase, apparently on general principals and nothing else. Are there any legitimate reasons why we shouldn't get it? Why, Philadelphia is supposed to be the cheapest operated railroad around, and they are now getting seven cents cash fare and if you get an exchange ticket that costs you three cents more making a

A SMALL BUT AMBITIOUS EMPLOYEES' BULLETIN

terminals is under consideration. In the meantime, however, the handling of traffic is being facilitated by the sale of fare receipts on the street to expedite rapid boarding of the prepayment cars. This plan, which originated in Camden, has proved so successful that it has been adopted elsewhere at congested points on the system.

One receipt booth was also erected, and at present four street ticket, or receipt, sellers are employed from 3 p.m. through the rush hour. On the first day that this plan was inaugurated 700 tickets were sold, and the number increased rapidly to about 8,000 on Saturdays. The result was a reduction of the time of loading to 1.47 seconds per passenger. A count showed that 80 per cent of the patrons now use the tickets. When this result was ascertained the company posted the following notice at the ferry terminal:

Co-operation Wins

An official record taken at the ferries shows an average loading time of 1.47 seconds per passenger. This means shorter headway, faster time and improved service.

Public co-operation made this possible.

THANK YOU

Public Service Railway

One thing that the management has resolved to do is to reduce the time lost through car delays. To this end an emergency truck, a Maxwell line truck, has been detailed to duty for emergencies. It is manned with a crew of three, representing respectively the track, shop and line departments, although it is under the supervision of the distribution department. It is the duty of this crew to repair promptly to the scene of any delay and by the use of expert knowledge clear up the blockade.



TYPICAL SHOP INTERIOR, PUBLIC SERVICE RAILWAY, CAMDEN

and promotions as between departments; (6) maintenance of individual records of all employees with issuance of badges and other forms of identification; (7) maintenance of close relationship with the medical department; (8) maintenance of an active interest in all activities of a social nature; (9) the interviewing of all employees leaving service with a view to conserving labor and giving data for analysis of causes of leaving.

The record cards for the several classes of employees are distinguished by colors, but are identical in form. Mr. Wallace has devised a complete set of record forms for his work, some of which have not been used before.

On the Southern Division it is the practice to play one evening a month. Two minstrel shows have been given at the Camden carhouse. They proved very popular and served to create a friendly feeling among the employees. As this article is in preparation a masquerade ball is being planned.

The service committee desires to get suggestions from

the men regarding improvements in the service and has prepared a form entitled the "Co-workers' Suggestion Blank," copies of which have been distributed under the auspices of the employees' union. The union local also is endeavoring to co-operate with the management through honor and safety committees in every possible way. The receipt of every suggestion received is acknowledged and those that are useful are noted in the service committee minutes.

It was noted above that H. C. Stevenson, in charge of public relations, also is a member of the service committee. The closest co-operation is thus maintained between the public relations and the actual operation of the property. It is the policy of the service committee to consider the necessity of gaining and holding confidence and good will of the public as well as actually furnishing service. For example, sometimes the service committee sits as a public relations committee to consider some emergency matter, like the company's application for a 10-cent fare. Wherever possible, representatives of the service committee appear personally at meetings of municipal and civic bodies throughout the division to present the company's side of the trolley question.

The employees' leaflet, "All-Together," that has been mentioned, is simply a letter multigraphed on both sides and sent to the men's homes. It discusses in an intimate way the problems of the property and has a human touch through mention of personal happenings. "All-Together" is also a strong factor in producing better teamwork and better public relations. The following is an excerpt from a recent issue:

Teamwork between the company and its employees, having shown good results in improving discipline, which is the backbone of safe and satisfactory service, let us now make a drive for future co-operation between the company and



THE PUBLIC SERVICE HEADQUARTERS IN CAMDEN

the people. Please tell our patrons that the company welcomes any communication by word or by letter of any complaint, criticism or commendation about the railway and such communication will be acknowledged and receive sincere, careful and intelligent consideration. Of course, a letter would be preferred, but verbal communications for example may be reported by the trainmen to the inspector, who will be glad properly to pass the word along. Cultivate the feeling that the company wants to please its patrons.

In order that the service committee shall be kept up to date on public opinion as far as possible, clippings are made re-

garding matters pertaining to the trolley company, in the office of the assistant to the president, and each clipping is pasted on a standard letter-size sheet of paper. The clipping is sent in order to each member of the service committee, who initials it, and it is finally returned to the original office for file and reference.

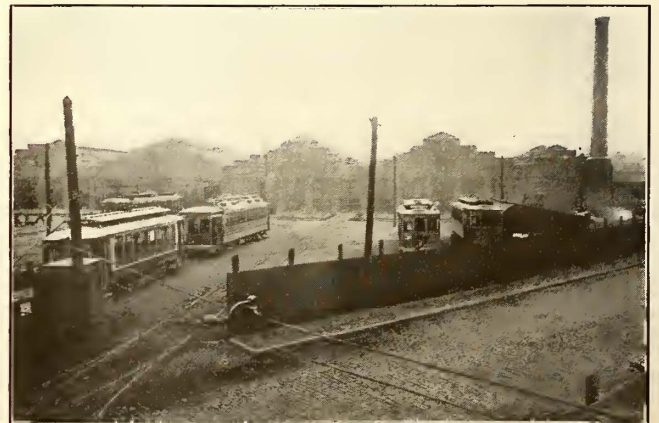
The service committee has also established what is known as the "Booster File." Any commendatory letters received, for one cause or another, are filed alphabetically by municipalities.

A company section of the American Electric Railway Association has also been formed at Camden, with the title "Public Service Railway Camden Section." It was organized with seventy-five members. C. V. Wallace, superintendent of employment and instruction, is president. The service committee believes that the key-word of the section is "Education," and education to the effect that no boss can be bigger than his men collectively nor any company better than its employees. The company section will be an open forum where all subjects, including operating as well as public relations, will be discussed. The men will be handed the truth first hand and the company section is expected to have its good effect in promoting better public relations.

Accident reduction is another problem before the



A CAMDEN STREET SCENE, FEATURING PUBLIC SERVICE ROLLING STOCK



CAMDEN SHOPS OF PUBLIC SERVICE RAILWAY, IN CHARGE OF J. HANF

service committee. Already some things have been done and accidents have been reduced through better supervision. The important plans thus far used are these:

Standardized warning signs have been placed near all curves. Alternate white and black bands have been placed on the poles, up to five poles from the curve, the number of bands indicating the number of poles that the curve is away.

A safety bulletin board has been installed at the office of each department head for the posting of timely notices.

Safety signs have been placed on the car doors.

The service committee has also given attention to inspection during the "wee, small hours." Formerly there was no inspection from 1 to 6 a.m. Now a night inspector, furnished with an automobile, appears at any

entered on errors corrected, punch same in the column marked "Closing Number of Transfer" in space of particular trip in which you have boarded car, being careful not to cancel any figures appearing thereon.

IMPORTANT

When making a register check or box check for conductor's work and conductor offers free passes or 7-cent tickets as part of his work, punch one impression in center of these tickets, which will signify you have inspected same, thereby preventing conductor from utilizing these tickets and substituting them for cash fares received on later trips.

This punch can be made an important adjunct in your work and with proper use of same, a considerable number of irregularities on the part of conductors will be overcome.

A successful effort has been made to reduce pull-ins, which formerly occurred often on slight provocation. Block numbers have also been placed on both ends of each car to identify it more readily.

The service committee also believes that it would be a



SCENE AT THE FERRY TERMINAL, CAMDEN, WITH TICKET BOOTH AND COLLECTOR IN EVIDENCE

point of the division without warning. Any infraction of the rules is promptly reported and the offender is disciplined the next morning.

Inspectors are also furnished with punches having characteristic forms, which are used by them in inspecting conductors' returns. Examination of the sheets thus shows by the punchings just what each inspector has done. The following instructions to inspectors give more details regarding this matter:

On Dec. 6 a number punch will be added to your equipment, which is to be used by you when inspecting the work of conductors.

The day card used by the conductor should be examined thoroughly to see if same is properly filled out in every detail.

Give particular attention to the columns marked "Schedule Time" and "Leaving Time" as well as columns "From" and "To," and if cars operate from different terminals than scheduled, see that proper note of same is made on day card.

Pay close attention to the reverse side of day card, noting whether conductor has properly filled in car and farebox numbers and check the readings of registers with commencing numbers on car record.

Note whether conductor is making a proper record of letter carriers, policemen and firemen on the reverse side of day card.

After day card has been properly inspected and omissions

paying proposition to make provision for pressing the uniforms of the platform men on account of the better impression that would be made upon the public.

Measuring and Removing Rail Corrugation

FRANZ SCHREY, civil engineer and head inspector of the Vienna (Austria) Municipal Tramways, has just issued a twenty-page pamphlet on the subject of rail corrugation. He describes the use of a motor-car grinding apparatus, employing a sliding stone device which is effective in eliminating corrugations.

Of special interest is Mr. Schrey's account of an instrument for measuring and recording corrugations on an enlarged scale. It consists of a carriage, which slides on a long bar held on the rail. The carriage carries on the top an arm, with a tracing point on the outer end, and below a plunger which makes contact with the rail surface. The upper end of the plunger pushes upward in the recording arm and is placed at such a point with relation thereto as to give the desired amplification of motion at the end of the lever. The plunger is forced downward by means of a spring and the recording arm is suitably weighted.

Electrification in Central Europe

The Question of System Is Being Studied in All Countries—Switzerland and Austria Are the Only Ones that Are Extending Their Single-Phase Lines — Scarcity of Coal Makes Electrification Highly Desirable — A Résumé Is Published of the Conditions that Exist in Germany, Sweden, Norway, Holland and Italy

By E. C. ZEHME
Berlin, Germany

INTIMATELY involved with the present status of the electrification of the principal railroads in the central European countries is the unanswered question as to the best kind of current to be used. It has been customary to consider Germany, Switzerland, Austria and Sweden as the advocates of the single-phase system, but they are not so today. Only Switzerland and Austria are at present extending their single-phase roads, whereas no definite conclusions have as yet been reached as to a standard system in Germany, Sweden, Norway and Holland, and even in Italy. The renewed doubts as to the best system are aroused by the conspicuous success in the operation of the American high-voltage, direct-current railways. The final preference in France for the direct-current system is due to the same cause, while the direct-current has also come off victorious in Great Britain. Some details of the situation in each of the middle European countries mentioned will be of interest.

GERMANY

For the present the electrification of German main railroads has been confined to two lines, the Magdeburg-Halle-Leipzig lines via Dessau and Bitterfeld, with 108 miles of route and 346 miles of single track, and the Lauban-Königszell line, with 171 miles of route or 311 miles of single track. Both of these lines suffered badly during the war, and only the small stretch between Königszell and Dittersbach was in electric operation. Strenuous efforts are now being made to re-establish operation on these lines, the principal difficulty being with the overhead wire. During the war all copper wires were removed and are now being replaced, but as an experiment part of the overhead is being restored with iron wire. Regular operation has begun between Königszell and Hirschberg on the Silesian Mountain roads, and it is expected that trains will be running as far as Lauban during the present spring.

The necessary authorization for the connections east to Breslau and west to Görlitz has been issued. Service will undoubtedly be begun very soon on the Saxonian line between Magdeburg and Leipzig.

The decision made in 1913 to electrify the entire Berlin rapid transit system is now beginning to bear fruit.*

At first the two northbound lines between Berlin and Hermsdorf and Berlin and Bernau respectively will be electrified.

As on all present state railroads, the single-phase system has been adopted here, to avoid complication of systems. However, as the entire Berlin rapid transit system in itself is detached from the State Railways and could be operated independently electrically, taking

power from the main railway power line, it would seem as this would not be a controlling consideration.

Obviously, the war greatly retarded the development of electrification on the main railroads in Germany. This was undoubtedly partly due also to the experimentation which was indulged in by the former State Railway Department administration. The experiments referred to included the use of locomotives for urban rapid transit rather than multiple-unit motor cars, the use of short cog rails to assist in starting trains to offset the small adhesive weight of the locomotive, the use of single contact points instead of a continuous wire for power supply, with contact-making strips the length of the train, and finally a scheme for a hydraulic transmission gear between the motor and the locomotive axle. Several of these ideas were incorporated in experimental equipment.

Recently doubts have been advanced from several sides as to the practicability of the single-phase system for the main railroads of Germany. An induced voltage of 4,000 has been effected in the 50 miles of the feeder line in the cables carrying low voltage signal current on the Silesian Mountain road, destroying the cable rapidly. Furthermore, the locomotives with their single-phase commutator motors placed high and driving the wheels through connecting rods are at present requiring excessive maintenance work. Nevertheless the authorities still manifest a preference for the single-phase system and have decided to call an international congress this year in Germany to go over the whole matter, presumably hoping that the present viewpoint of the Prussian State Railways in regard to the system will be justified.

Skepticism has developed also with regard to the advisability of using electric locomotives on the Berlin rapid transit lines, and some test trains consisting of motor cars and trailers will be built to demonstrate locally the practicability of the system which elsewhere has been long established.

There are now all told about 472 miles of electrified lines, or 940 miles of single track, on the main roads in operation in Germany; that is, in Prussia, Bavaria and Baden. These installations were all made by German electrical manufacturers.

AUSTRIA

The electrification bureau of Austria is actively at work, and a bill has been introduced in the national congress for the use of electric traction on the state railways, embracing and standardizing all existing individual plans. This bill, which has now been passed, rules that, conforming with the laws passed Dec. 20, 1919, and May 20, 1920, all work already under way should be actively pushed so as to permit electric operation if possible not later than June 30, 1925, on the following lines:

*See issue of ELECTRIC RAILWAY JOURNAL for July 3, 1920, page 20.

1. Arlberg line (Innsbruck-Landeck-Bludenz) and Vorarlberg line (Bludenz-Bregenz-Lindau) and branch lines.

2. Salzkammergut line (Steinach-Irdning-Attnang-Puchheim lines).

3. West line (Salzburg-Schwarzach-St. Veit-Wörgl lines).

4. Tauern line (Schwarzach-St. Veit-Spittal-Mill-Stättersee lines).

The total length of these lines will be 363 miles, and with the extensions which have been planned for later addition, the total will be 1,108 miles, or 40 per cent of all state roads operated in Austria.

Of these lines, 658 miles are single track and 450 miles are double track.

The electrification of these lines is considered of urgent importance, because Austria today produces only 16 per cent of the coal which it requires, and electrification would permit the saving of 50 per cent of the demand. Under the influence of Prussia, the Austrian State Railway Administration has adopted single phase with 15,000-volt contact line potential at 16 $\frac{2}{3}$ cycles.

The power supply will be taken from the newly erected station at the Spullersee (for the Arlberg line), at the Stubachtal and on the Mallwitz, and the hydro-electric plant on the Rutzbach (Mittenwald line) will be enlarged. The Salzkammergut road will be supplied from the existing power plant.

The electrification of the Arlberg line, with its maximum grade of more than 3 per cent, has already been begun. The locomotives have been ordered from German-Austrian firms. In these the weight upon any one shaft will not exceed 14 $\frac{1}{2}$ metric tons, and the total weight will be 2.1 tons per foot of over-all length. On the freight locomotives the single-phase commutator motors will drive the coupled axles by means of gears. On the passenger locomotives the motors are geared to a jackshaft which is rod-connected with the drivers.

Omitting the lines in contemplation, there are 250 miles of route of electrified main lines in operation in Austria, or 358 miles of single track. Of these two-thirds are operated single phase and one-third direct current.

SWEDEN AND NORWAY

The present total length of electrified railway in Sweden is 90 miles, of which 81 miles is single phase and the remainder direct current. In Norway the respective mileages are 45, 28 $\frac{1}{2}$ and 16 $\frac{1}{2}$.

The Swedish State Railways have actively pushed their electrification program. The Riksgränsen Road from Kiruna to the Swedish-Norwegian border in the north has been in operation with its heavy ore trains since 1914. It is a single-phase road operated at 15,000 volts, 15 cycles, and takes its power from the Porjus hydro-electric station.

Electrification of the southern extension of this line from Kiruna to Lulea, 190 miles, is at present under construction. The northern extension from the border to the port of Narvik is being planned by the Norwegian State Railway. The electrical equipment for this will be furnished by Siemens-Schuckert and the Allgemeine-Elektricitäts-Gesellschaft.

The Swedish State Railways plan to electrify additional lines, principally in the south, and primarily for passenger traffic. Here the question of system has again been studied very carefully and the following estimates have been reached as to comparative merits

of: Three-phase rotary converters, converting alternating current to direct current; (b) three-phase motor generators, converting three phase to single phase; (c) straight single phase. The over-all efficiency from power plants to train is placed at 54 per cent, 55 per cent and 64.7 per cent in the three cases respectively. The corresponding building investment would be 100 per cent, 94.5 per cent and 97.2 per cent, while the operating cost would be 13.2 per cent, 13 per cent and 12.6 per cent.

In Sweden, although it would be possible to obtain power from the general three-phase system of the country, it is considered safer, although more expensive, to generate the railway power in separate plants.

Although the single-phase system is estimated to be somewhat more economical than the other, the difference is small and is being considered in connection with the inductive disturbances in telegraph and telephone lines caused by the alternating-current operation. A special commission on this subject has studied the phenomena carefully, together with the remedy for the trouble, and has presented a long report. This is unfavorable to the single-phase system. The matter is now being taken up again because the Swedish Reichstag has accepted a project to electrify the Stockholm-Gothenburg line. In accepting an alternating-current project for this line, the understanding was that a satisfactory method be found to prevent disturbance in existing telegraph and telephone lines.

HOLLAND

The Holland State Railways intend to electrify all their lines and are now debating the question of system. To date 32 miles of track have been electrified, 12 with high-tension direct current (1,200 volts) and 20.5, from Rotterdam to Scheveningen, with 10,000 volts single-phase current, 25 cycles. Both of the present electrifications are old and cannot be used as examples for new projects. The single-phase line was built in 1908 and the direct-current line in 1911, both by the Siemens-Schuckert works.

The Holland State Railways have appointed a commission to study the railway systems of the world, including the American direct-current lines and the Swiss alternating-current systems, with a view to prescribing for the country's needs, with due reference to the lack of coal and the necessity for avoiding inductive disturbances.

ITALY

Italy is a country lacking coal but rich in water power, and hence has long been interested in electrification of its railways. Today there is an electrified track mileage of 640, of which 265 are operated by direct current, 198 by three-phase current and the remainder by single-phase current.

The principal lines are those using three phase, a field in which Italy did pioneer work. The foundation for this system was laid by Ganz & Company (Budapest), with the Valtellina line employing 3,000 volts and 15 cycles, installed for the Italian State Railways. This work was continued by the Westinghouse Company at Vado, Ligure, under the direction of Mr. Kando, while Swiss builders equipped the Simplon line, contributing to this development.

The direct-current lines are mostly west of Milan, toward Varese. The single-phase roads center around Rome and Naples, but a few short three-phase lines can also be found in northern Italy.

The present critical coal situation has brought electrification to the front with a new impetus. A program has been prepared for the electrical equipment of all the principal lines, of a combined length of 1,160 miles, which will eventually give Italy a total of 1,860 miles of electrified road. The first two groups of 826 miles will be built by the state and include lines near Genoa, Trieste, Pisa, Parma and Verona, all in northern Italy. The third group, involving 505 miles, will be built by private capital. Up to the present Italy has favored the three-phase system and from the records it must be admitted that it has worked out very well, especially on account of the success of regeneration on the southern slope of the Alps. As a result, this system will be used for the present, but the possibility of changing over to another system is being kept in mind. Good results are expected to follow the close co-operation of the government with the privately built railways.

When the Valtellina road was electrified (1900-1902), followed by the Simplon tunnel (1905), the use of gears between motor and axles had not yet come into favor, and in the Valtellina contract gears were specifically excluded. Later, such good results have been achieved with gears, as for example on the Lötschberg electrification and in America, that they will be considered in future electrification plans of Italian railways. This will permit the use of a higher frequency and possibly a current supply from existing power plants. On two lines near Rome three-phase current of a frequency higher than fifteen cycles will be used.

SWITZERLAND

The country of Switzerland was designed by nature for electric traction, and here there is an electrified mileage of 535, divided as follows: 177.5, high voltage direct current; 71.5, three phase, and 286 miles single phase. The government's commission for the study of the electrification of the federal railways has recommended the use of single phase at 15,000 volts, with 15 to 16 2/3 cycles. This was adopted more than four years ago. The system was first used by the Oerlikon Company on the experimental track between Seebach and Wettingen in 1905 to 1907 and was later adopted by the Prussian State Railways.

The Swiss Federal Railways constitute 75 per cent of all the railways in the country. In 1913 it was decided to electrify the Gotthard line, after the Bernese Alpine system had electrified the Lötschberg line in the same year with 15,000 volts, 15 cycles. The first locomotives for this road were of Oerlikon make.

In 1918 the Federal Railways took up a large electrification program and, as previously explained in this paper, divided the entire mileage into three groups. Of these the first comprises 705 miles, of which 14 miles have already been electrified. The second group involves a mileage of 376, and the third one of 637, a grand total still to be electrified of 1,704.

In the original plan a period of ten years was allowed for the electrification of each group, but this will undoubtedly be modified. On July 1, 1920, the first freight train went through the Gotthard tunnel, and on Sept. 15, 1920, the first passenger train went through. Regular operation experienced a setback owing to an accident in the Ritom power house. After repairs, service was resumed in November, 1920. The locomotives for the Gotthard tunnel were built in part by the Oerlikon works and in part by Brown, Boveri & Company. (See ELECTRIC RAILWAY JOURNAL, Aug. 7, 1920, page 256.)

Among the important private electrifications in Switzerland may be mentioned the Rhaetian Railway, opened in 1920, and the Bernese Alpine Railway.

Cost of Pavement Maintenance and Resurfacing in Chicago

INCLUDED in the forty-fourth annual report of the Department of Public Works of Chicago for the year 1919 are some figures on the cost of maintenance and resurfacing various kinds of pavements. By "repair" in the following table is meant the patching of holes, cracks, etc., as they appear, while resurfacing is the tearing up the surface and relaying:

PAVEMENT REPAIR COSTS	
	Cost per Square Yard
Sheet Asphalt	\$1.94
Brick	1.53
Cresote block	2.25
Water-bound macadam-oiled	0.45
Asphaltic-concrete	1.90
Granite block	0.96
RESURFACING COSTS	
	Cost per Square Yard
Asphaltic-concrete	\$1.94
Macadam	1.69

The cost of asphalt delivered to the job obtained by averaging the outputs of three separate plants is:

ASPHALT COSTS	
	Cost per Ton
Top	\$9.46
Binder	6.88
Asphaltic-concrete	7.28

The average cost of oiling macadam pavements in Chicago was \$0.013 per square yard.

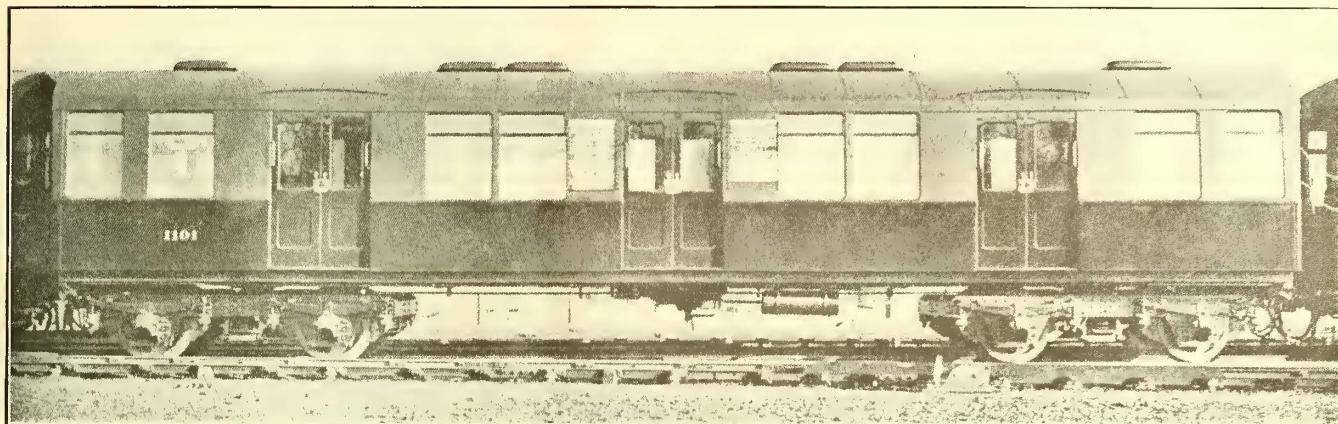
Jitney or Bus Competition

J. F. McLAUGHLIN, writing under the above caption in the *Stone & Webster Journal* for February, 1921, states that during the height of the unregulated jitney craze in 1915 from 6,000 to 10,000 machines were in operation in this country. He stated that it soon became apparent to municipalities and other regulatory bodies that the unregulated jitney congests traffic, impairs the proper functioning of the street railway system, and, in fact, destroys instead of adds to the existing transportation facilities of the community, and therefore must be regulated. The development of regulation has caused in many places the complete elimination of this form of competitive transportation, so that at present there are estimated to be only from 2,000 to 3,000 jitneys operating. Three-fourths of these are charging fares in excess of 5 cents.

This competition, Mr. McLaughlin states, has been a costly experiment to many communities and traction companies, but has taught the following lessons: (1) That street railway service and jitney or bus service cannot both exist for any length of time as competitors in the same field. (2) That with jitney or bus competition the whole or a large part of a community pays a higher fare than would be necessary if the total traffic were handled by the street railway. (3) That when operated under conditions similar to the street railways, the jitney cannot meet the transportation requirements of a community as satisfactorily or as cheaply as the street railways. (4) That the jitney or bus cannot supplant the street railway as a means of supplying urban transportation.

New Type of Cars for London Subways

New Steel Rolling Stock Has Been Received by Three of the Railways Operating Rapid Transit Lines in London—These Are the Metropolitan, the Metropolitan District Railway and the London Electric Railway—More Rapid Handling of Passengers by Multi-Side Door Arrangement and Longer Trains Is Expected to Relieve Present Congestion



THE THREE-DOOR TYPE OF CAR RECENTLY ADDED TO THE DISTRICT RAILWAY

ABOUT the middle of December the London Electric Railway received the first consignment of some forty new cars of an improved design to supplement the rolling stock on the Piccadilly line. At almost the same time deliveries were begun to the Metropolitan District Railway on its order of 100 new cars from the Metropolitan Carriage, Wagon & Finance Company of Birmingham, and the Metropolitan Railway Company has just put into service one train of new cars of an improved design. The Metropolitan District Railway's order is made up of forty motor cars and sixty trailers, twelve of which have control equipment and cabs for operation. Deliveries of these cars are expected in installments at short intervals. This new equipment will be used during heavy traffic hours in eight-car trains made up of three motor cars, four trailers and one control trailer. At times of lighter traffic these trains will be cut into three- and five-car trains. The seats of the motor cars are arranged to accommodate forty, those of the control cars forty-four, and of the trailers forty-eight. The order of the Metropolitan Railway is made up of twenty motors and thirty-nine trailers. Over-all dimensions of these cars are given in the accompanying illustrations.

STUDIES OF DOOR ARRANGEMENT

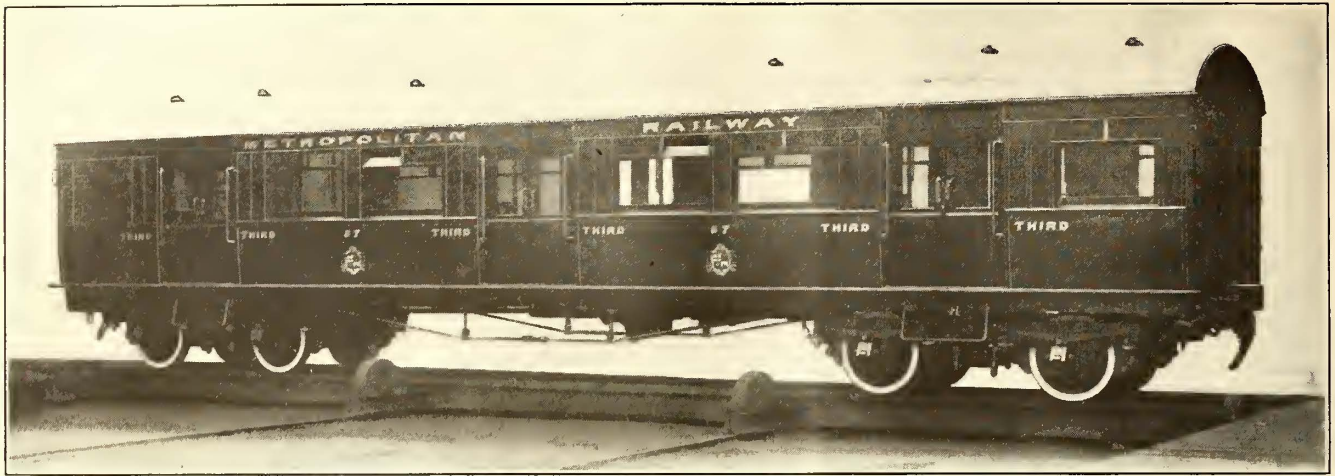
A considerable amount of experimenting has been going on in regard to door arrangement on the London underground railways. The problem was to devise such an arrangement and number of doors in each car as would provide the most speedy entrance and exit of passengers without materially reducing the seating capacity of the car. Hitherto the multiple-unit cars of the Metropolitan Railway and the Metropolitan District Railway, which operate in open and covered cuts, have had end doors entering into vestibuled platforms and additional center side doors. On the so-called "tubes," or deep-tunnel lines, end doors furnished the only means of entrance or exit. This practice was departed from recently in the case of the joint rolling stock of the

Baker Street & Waterloo Railway and the London & Northwestern Company's line from Willesden to Watford, which has side doors.

Some time ago the Metropolitan Railway found as the result of tests that during the busy periods of the day the average duration of station stops when the cars of the trains had end doors only was from forty-two to sixty-two seconds. In the case of cars with additional center side doors the time was reduced to from forty-two to thirty-nine seconds. About a year ago an experiment was made with a train having five single doors on each side of each car. Experience revealed certain disadvantages, among them being that passengers tended to congregate near the doorways and to interfere with free egress and ingress.

Based upon this experience, this last order has provided for three double doors on each side of the car and the end vestibules have been dispensed with, the space thus saved being used to give additional seating accommodations. Seats are provided for fifty passengers and are arranged transversely on both sides of the aisle, with here and there a double seat between them. The door and seating arrangement is much the same as on the cars of the New York Municipal Railway. Strap-hanging, as on other recent cars, has been abolished by the provision of steadying rails at a convenient height and by using grab handles at the aisle corners of seats.

Another innovation is the provision of a glass screen flanking each door, which, in addition to giving passengers immunity from draught, has the effect of breaking up the interior of the car into a series of semi-compartments. In connection with the design of the new cars the Metropolitan company has made modifications under which it expects that there will be a marked improvement in the heating and ventilating arrangements and in smooth running as compared to previous types. The underframe is constructed entirely of steel and the floor is covered with steel plates, over which is a layer of fireproof cement. The weight of the trailer



ONE OF THE NEW THREE-DOOR CARS FOR THE METROPOLITAN RAILWAY

car is 22 tons and that of the motor car 46 tons. The builder is the Metropolitan Carriage, Wagon & Finance Company, Birmingham.

FEATURES OF DISTRICT RAILWAY'S NEW CARS

The new type of car for the Metropolitan District Railway is shown in the accompanying illustrations, and from them the new door arrangement can be seen. Each car, like those described above, has three double sliding doors per side for passenger use. On the motor cars there are also two single doors at each end into the motormen's compartment and likewise two for the one compartment of a control car. These cars are about one foot wider than the older ones, the body width extending almost to the edge of the step board of the earlier type. They exceed cars of previous design in length by a few inches. By the omission of the vestibule single doors and their replacement by double doors about 10 ft. from the car end, all seats now fall within a distance of 9 ft. from an exit, which distance, it was found, is about the maximum distance that people will go from a door. This introduction of a larger door to serve both directions will result, it is expected, in the more expeditious handling of crowds and, consequently, in a shorter stopping time.

In the structural design of the bodies they have been treated as hollow girders, which results in economy of material and

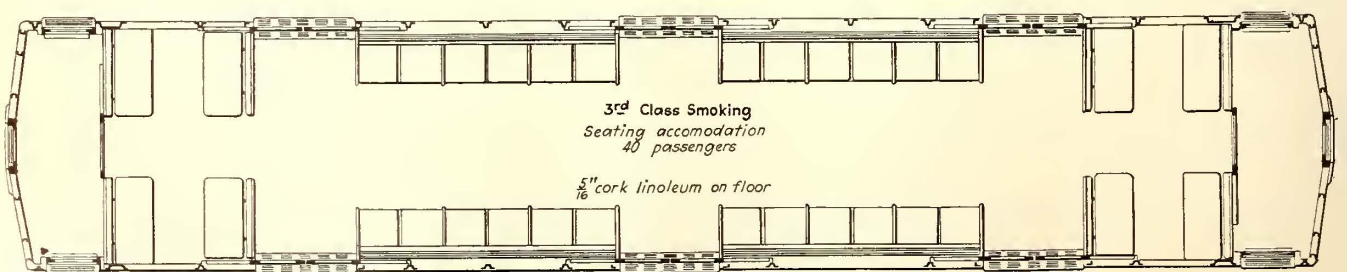
reduction of weight, without sacrifice of strength and stiffness. No truss-rods are employed to reinforce the car frame. Improved spring arrangements insure easy riding. The motor cars, being higher powered than their predecessors, will have both an increased speed and rate of acceleration. On "non-stop" runs a speed of 45 miles per hour can be attained. Improved braking equipment will help speed up the service by shortening the braking time.

By reason of their added width, these cars are much more roomy than the old. There are no straps, but hand rails and posts are conveniently placed at points near doorways and open spaces for the support of standing passengers. As an aid to patrons, the company has provided these cars with two sets of train indicators, one on either side of the center door. These contain the stations at which the train stops and a passenger can see at a glance before boarding the train whether or not a station stop is made at his destination.

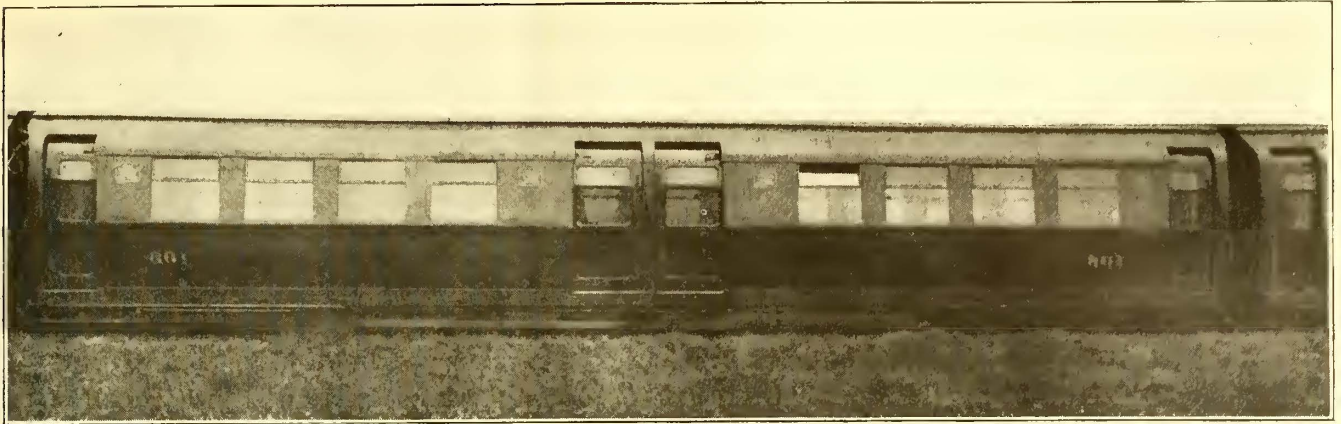
The London Electric Railway, as already mentioned, is also adding new rolling stock to its equipment of the Great Northern, Piccadilly & Brompton line. In order to increase the service on the three "tube" railways owned by the company, namely, the Great Northern, Piccadilly & Brompton, the Charing Cross, Euston & Hampstead and the Baker Street & Waterloo, all to six-car trains for the rush hours of the day, forty new



INTERIOR OF NEW PICCADILLY ROLLING STOCK



FLOOR PLAN OF METROPOLITAN DISTRICT RAILWAY'S NEW MOTOR CAR



NOTICE THE DOOR ARRANGEMENT ON THE CARS FOR PICCADILLY LINE OF THE LONDON ELECTRIC RAILWAY

trailer cars were ordered. The first four were delivered in December, and the remainder will follow at the rate of about two per week. The slow delivery of this equipment has been due to strikes and unfavorable industrial conditions. As fast as deliveries will permit, improved service is to be given by gradually building up a six-car train service during the peaks.

The general dimensions of the new cars for the London Electric Railway are almost identical with those now used, due to limitations imposed by tunnel section and curves. An elliptical roof replaces the clear story or monitor roof of the older cars. Special attention has been given to the lighting scheme, the lights being so arranged in groups of two down the center of the car as to provide well distributed illumination for passengers to read. Both the location of the lights and the restricted space allotted to roof advertisements have produced improved light reflection. Cross seats have been abandoned altogether, while the straps for standing passengers have been replaced by vertical poles. A great deal of attention has been devoted to the design of the seats. As a result a seat upholstered in pegamoid has been produced so that to be comfortable a passenger must sit upright and, at the same time, this decreases the tendency to block the standing area by drawing in his feet.

After a careful study with models of permissible door

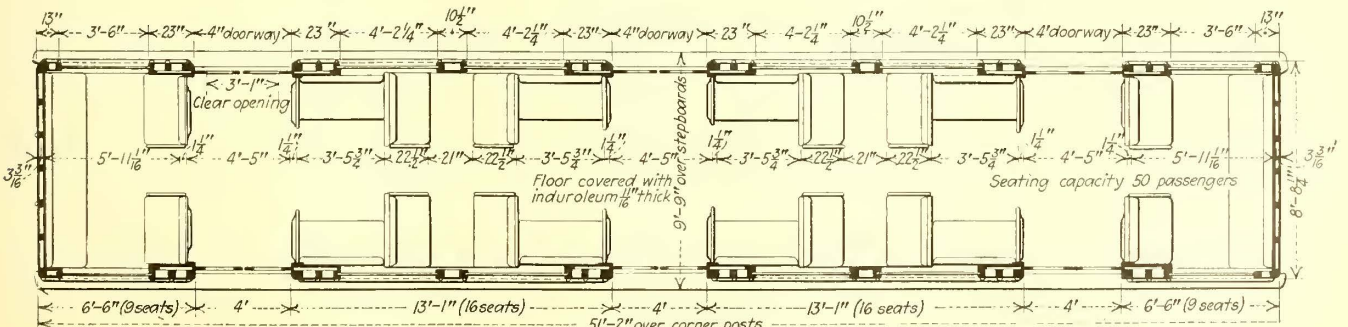
arrangements for the Piccadilly cars these have been fitted with a wide double-center door and a single door at each end. The middle door allows four people abreast to pass, while the end door permits but one person to enter or leave at the same time due to limitations imposed by the seat-box over the truck. Sliding instead of hinged doors have been adopted for the first time on "tube" railways. On account, however, of the low height of the car it has been necessary to extend the top of the door into the car roof. Because of this enforced construction, the doors could not be hung from the top in the ordinary way, but are carried on ball-bearing wheels running on the floor track, while rollers at the top act as guides.

The doors are all operated pneumatically by a device designed by the company's engineers, which presents several departures from standard practice in London,

but which is similar to that followed by the New York subways. The front edge of each door is made of a resilient material on four cars already delivered. Experiments in this connection, however, have not yet been completed. As at present arranged the door edge consists of a channel section connected to a rod operating, through the door itself, to a clutch mechanism. If, while closing, the door strikes a passenger, the pushing back of the edge operates a three-way valve connected to the rod. The valve, when operated thus,



GENERAL VIEW OF INTERIOR OF THE METROPOLITAN'S LATEST ADDITION TO ITS EQUIPMENT



FLOOR PLAN OF METROPOLITAN TRAILER

reverses the direction of the door, which goes back to the end of its travel and then starts closing again. As a result of experience with the four cars delivered further experiments are being made with the view of making the sensitive edge still more sensitive. To do this, however, it is preferable to perfect the comparatively simple mechanical device that is already in use than to resort to some more complicated electric apparatus.

It is hoped with trains made up of these new cars to reduce the number of attendants other than the motorman to two per train, one at the front door of the rear car and one at the rear door of the forward motor car. Now five gatemen are employed with a six-car train, but under the new method the rear gateman will close all doors except the rear door on the front motor car, which is separately controlled by the other gateman. On each door is fitted a brightly painted yellow semaphore which juts out horizontally when the door is open, but is forced down out of sight by the door in closing during the last half-inch of its travel. The front gateman, on receiving the signal from the one in the rear and noticing all the semaphores pushed down, signals the motorman to start. By this means and with the aid of the ordinary platform staff it is expected that the length of stops at busy stations will be materially reduced.

In addition to the four trailers just received two of the older motor cars on the Piccadilly line have been converted to this arrangement, so that one train is in service with identical door control on each car. The railway regards this train in the nature of an experiment, and, as a result, certain modifications may be found desirable in the remaining new cars to be delivered.

Each of these cars seats forty-four passengers instead of fifty-four in the ones of older type. These forty cars will mean an addition of 26 per cent to the existing cars of the Piccadilly line and will provide 21,000 additional seats during the rush hours. They are built in the shops of Cammell, Laird & Company, in Nottingham, and cost about £120,000.

Interest in Trackless Trolleys Growing

THERE seems to be an indication of the revival of interest in the rail-less traction system, according to C. J. Jewell, Yorkshire Electric Tramways, Wakefield, England, in view of the heavy expenditure necessary in laying down the track structure for a street railway. Estimates for a street railway track are now in the neighborhood of £25,000 per mile of single track. Where the traffic is dense enough to warrant this expenditure, tramways are already being operated, but it is necessary to find some alternative method of furnishing other less densely populated routes with transportation service at a cost which will permit the giving of self-supporting and reliable service.

Leeds and Bradford are two pioneer cities which have taken up this question with a view to catering to routes that would not warrant the heavy capital expenditure of permanent way. Their experience with the trackless trolleys shows that notwithstanding the small seating capacity and the poor service, the costs of operation are much lower than the average cost of rail cars on these respective systems. Improvements to overcome these defects are now being made and it is expected that in the near future this method of traction will be considerably extended.

Electrification of Quebec Railroads Urged

The Present Period of High Cost of Coal Has Emphasized the Economic Necessity of a Definite Plan of Water-Power Development and Electrification of the Railroads in Canada

IN AN address recently given before the Rotary Club, Quebec, H. E. Weyman, manager Levis County (Que.) Railway, told why Canada, in the near future, would have to decide upon some comprehensive plan for the development of its water power and for the electrification of its railroads. He went on to say that in Central Canada, and especially in the Province of Quebec, there are no coal deposits, but nature has remedied this by providing enormous water powers. These at present are not being utilized to any great extent, but wasted while huge sums are paid to obtain coal from outside the country. Electrification in other countries, even those which have enormous coal deposits, has advanced to such an extent within the last few years that plenty of data are available on electric operation. Using the operating costs of the Chicago, Milwaukee & St. Paul Railway, Mr. Weyman showed how great an economy could be effected by similar operation of Canadian railroads.

Within the zone of the Province of Quebec 15,000,000 ton-miles of haulage is done by steam locomotives per annum. This requires more than 2,250,000 tons of coal per year, costing at present \$8 to \$10 a ton, the total coal bill therefore being from \$14,000,000 to \$15,000,000. This coal, purchased outside the province, has to be hauled from the mines on an average of 400 miles, involving about 700,000,000 ton-miles of non-revenue haulage, or 5 per cent of the total ton-miles of haulage per year.

The energy required to operate the railways in the zone mentioned would be about 720,000,000 kw.-hr. annually, or at the probable load factor the power plant capacity would be 100,000 kw. When it is considered that there are several water-power plants in the province of 300,000-kw. capacity, this figure appears comparatively insignificant. The total cost of power for electric operation would be about \$7,000,000, as against twice that amount now spent for coal. Besides this electrification would save \$1,000,000 annually, resulting from the elimination of non-revenue haulage.

All new railroads, said Mr. Weyman, to be constructed in the future should not only for their own but also for their country's sake be operated by electricity. Future development of white coal also demands that all electric power be standardized so as to permit power plants to be interconnected, thereby permitting a constant and reliable supply and giving the whole structure a solid financial footing. Thus the financing, development, rate of return and individual initiative would be assured no matter what abnormal conditions may come. Every one realizes that the past war resulted in injuring the credit of all public utilities and railroads. The whole question is huge, but certainly such a scheme as outlined will have to be undertaken.

American Engineering Council, the executive organ of the Federated American Engineering Societies, is making a study into the causes of labor unrest and industrial defects in the country as part of its effort to eliminate waste in industry. Herbert Hoover is president of this organization.

Old-Time Interest at C. E. R. A. Meeting

The Association Took Stock of Itself and Formulated Plans for Increased Activities, Which Are Calling for an Executive Manager and Separate Meetings for Engineers—Optimism Was the Keynote During the Entire Two-Day Meeting—Much Interest Was Shown in the Topics Discussed, Which Included Preservation of Line Poles, Service and Salesmanship and the Promotion of Traffic

IN AN annual meeting at Toledo Feb. 24 and 25, notable for the interest manifested, the high caliber of papers and constructive thinking and planning, the Central Electric Railway Association got back into its old pre-war stride. Right from the start, in President Robert I. Todd's address, a note of optimism and action was sounded, and this prevailed with constant strengthening to the end of the two-day meeting. Separate meetings for the engineers and an executive manager for the association are among the things which the executive committee will act upon by vote of the convention within the next sixty or ninety days.

Another important step taken was the vote of the meeting directing the appointment of a committee on merchandising transportation to devise ways and means of educating platform employees as the best medium through which to reach the public. The planning of a boat trip should also be mentioned, as it will renew interest in the summer meeting of the association.

ADDRESS BY MR. TODD

President Todd opened the meeting on Thursday morning with about 125 in attendance. In his address he spoke of the opportunity now, with the restoration of peace, for the association to take up its former activities. He pointed out that the 1920 membership included fifty-six railway lines, representing 4,711 miles of line, and, in addition, two steamboat lines. He reviewed briefly the activities of the association during the past year and suggested that the decision to have but two meetings annually instead of three, as heretofore, would seem to be a step in the right direction for the association to take. Continuing his address, Mr. Todd said:

The most important problem before the street and interurban railways at the present time is the restoration of their financial credit with the bankers and the investing public. Emerging as they now are from a period of depression and financial starvation due to a lack of co-operation and appreciation of their true situation on the part of the public, and, in many cases, a ruinous indifference on the part of federal, state and city authorities, the financial condition of many of those companies is very precarious. Yet without the financial oxygen, which was so freely administered by the Federal Government to the steam railroads and numerous manufacturing industries during the late world war, the electric railways of the country have heroically struggled for several years past for their very existence, all the time faithfully serving the public while their stockholders have suffered heavy, and in some cases, irreparable losses.

If our electric railways have thus shown such staying powers in the midst of what seemed insurmountable obstacles, is it not positive proof that with adequate fares and just regulation they will be able to render such service in the carrying of passengers and freight as will contribute perhaps more than any other one factor to the great upbuilding of our American cities and towns and play a most important part during the present and coming period of reconstruction?

This fact is recognized by some of the greatest financiers

of the country, who have freely expressed the opinion that with proper rates of fare, electric railway securities will be among the most stable and solid investments anywhere to be found and compare favorably with municipal bonds and other first-class securities. If this be true, as it undoubtedly is, a great civic and moral responsibility rests upon rate-making bodies everywhere to see that such fares are allowed in the interest and welfare of the great body of the public and the growth and upbuilding of the cities and towns.

The fare question is one which is now engrossing the most careful attention of the heads of all electric railway companies. If those which are still solvent are not to follow the financial disaster which has befallen hundreds of others, rates must be allowed which will provide a fair return on the investment and afford means for efficient operation and necessary extensions. This must be done whatever the rate plan may be. City and state authorities sometimes fail to recognize this very evident fact, and very recently in Louisville, Ky., the federal court was appealed to on the ground that to require a company to furnish transportation facilities at a loss was confiscation of property. The court recognized the merits of this appeal and promptly permitted the company to charge a rate of 7 cents.

FEDERAL DECISIONS ON RATES

Recent federal decisions which make steam railroad passenger and freight rates in the states of Ohio, Indiana and Illinois conform with interstate commerce rates, namely, 3.6 cents per passenger-mile and approximately 40 per cent advance on freight rates, are bound to have a favorable effect upon interurban passenger and freight business either by diversion to the interurbans of many intrastate passengers or by giving basis for an increase in interurban freight rates and fares, or both.

In the readjustment of prices of commodities, in order to get back to normal conditions, it is clearly evident that labor must bear its fair share in the general reduction. An equal distribution of financial burdens is imperative if we are to reach a sound, economic basis.

THROUGH PASSENGER AND FREIGHT TRAVEL

A matter calling for our serious consideration is the development and encouragement of through travel over long distances without change of cars. Experience has shown that with proper facilities and publicity such service can be made very popular and profitable. Where such service has once been established, and for one reason or another temporarily discontinued, it has taken great effort to re-establish it. We believe that through, fast interurban trains are in demand, particularly between points where steam railroad trains are infrequent and unsatisfactory. Excellent through interurban service is now being furnished by some of our member companies. Perhaps the greatest recent development along these lines is that inaugurated by the Interstate Public Service Company of Indiana, which has just added to its equipment a number of handsome and commodious steel passenger cars with trailers which run at frequent intervals between Indianapolis and Louisville.

No less important from a revenue standpoint is the operation of through freight and express cars which will avoid the delay and loss caused by transferring shipments en route.

Local freight service should also be improved. If interurban companies are to recoup their passenger losses on account of automobile travel, they will find it imperative to greatly develop their freight business. This fact I think is recognized by all.

A committee of this association is already considering motor truck competition and will make its report in due time.

While we are now passing through a period of "hard times," the future is full of promise. No line of industry has had to bear more burdens during the last few years than the electric railways of this country, and no industries have shown more grit, loyalty and determination in the face

of what seemed almost insurmountable obstacles. This gives hope for the future, so much so, that President Gadsden of the American Electric Railway Association in a recent address assured us that:

"With the revenues of electric railways adjusted so as to cover the cost of operation and provide an adequate return upon investment at all times, the credit of electric railways, provided we have the proper financial structures, will rank next to municipal securities."

SERVICE AND SALESMANSHIP

After a few minutes devoted to the business of the association, James P. Barnes presented a paper on service and salesmanship, which was very enthusiastically received. In the course of the discussion which followed the association voted to have the paper printed and given a wide distribution among the association members and employees. The paper appears in full elsewhere in this issue.

One of the points made by Mr. Barnes which evoked a good deal of discussion was that the employees of a railway company formed the most effective means through which to reach the public. C. L. Henry, president Indianapolis & Cincinnati Traction Company, agreed with Mr. Barnes that this was the best method of developing good relations with the public, but that it was the very hardest plan to carry out. He spoke rather hopelessly of the difficulty of educating the platform men and suggested that Mr. Barnes write another paper telling just how it could be done. Mr. Barnes retaliated, good humoredly, by saying that if he had a definite plan for doing this he could sell it.

S. B. Hutchins, Westinghouse Traction Brake Company, suggested that something could be accomplished by calling in a few of the best platform men and talking with them about the suggestions in Mr. Barnes' paper, with the idea that they could be asked to bring up the matter in employees' meetings and induce their understanding and co-operation.

Prof. D. D. Ewing, Purdue University, said that much could be accomplished, in his opinion, if the association would maintain a bureau of facts which could disseminate information generally to the newspapers and could function as a source of reliable information upon which the public press and civic bodies could call. He said that the greatest need was to overcome the publication of misinformation and that this bureau might serve as an important corrective measure.

M. B. Lambert, Westinghouse Electric & Manufacturing Company, expressed the feeling that where there is a will there is a way to accomplish the co-operation of employees. He contended that the problem is that it is not so much the ignorance of the trainmen and the people generally as it is that they know so much that is not so. He spoke of the American Electric Railway Association work along the line of merchandising transportation and said that the first phase of the work which the committee assigned to that task is to take up is that of training the employees. He then suggested the appointment of a C. E. R. A. committee on merchandising transportation, whose duty it would be to devise ways and means of educating the employees, and then put this in the form of a motion, which was passed by the association.

A. Schwartz, Toledo Railways & Light Company, suggested that a committee be appointed to work up effective posters for use in the cars of the member companies, but this was not acted upon.

Thursday Afternoon Session

A motion picture, "From Tree to Trade," was shown at the opening of the afternoon session in conjunction with a paper by R. R. Cunningham, Long-Bell Lumber Company, Indianapolis, Ind., on the "Conservation and Preservation of Line Poles." In his paper Mr. Cunningham reviewed some of the fundamentals in connection with the preservation of poles by treating with creosote and cited the long life which has been derived as a result. He also explained the process of treating used by the Long-Bell company, which consists of first subjecting the timbers after air-seasoning to a pressure treatment of creosote in a closed tank, followed by the application of a vacuum for withdrawing practically all of the surplus oil from the timber. In answering a question he explained that this method had been found to be more effective and less expensive than the earlier process wherein the timber is first subjected to a vacuum, followed by the pressure treatment.

THE FUTURE OF THE C. E. R. A.

The association then entered upon an extended discussion of the Central Association, which was in the nature of taking stock of the position of the association and what its future course should be. President Todd called upon C. L. Henry to start the discussion. Mr. Henry commented that he had watched the development of the association from its very beginning and expressed the feeling that its career had been about as perfect as human minds could make it. He said its activities had always been marked by harmony and unity of purpose, to which might be attributed much of the success attained. He said it was about the first association to take in the supply men and manufacturers as members and that this act had been a great success. He urged, now that the number of meetings had been reduced to two, that they should each be made unusually strong. He thought the summer meeting should be attended by as much pleasure and fun as possible, and that the winter meeting should include a banquet at which the biggest men in the industry should be secured to speak. He also recommended that there should be a meeting of the executive committee in between these two regular association meetings.

He spoke of the strength and accomplishments of the subsidiary traffic association and suggested a wider work. He expressed the opinion that the railways embraced by the association are on the eve of a splendid development in the freight, express and passenger transportation business. He said it was remarkable how much preference people show for interurban travel, and mentioned the action of the Indiana farmers in securing the passage of a state law permitting the hauling of live stock through the streets of any city in the state in interurban cars. He declared that the harvest is now ripe and that the electric lines can secure a splendid increase in all classes of business if they go after it. He also urged that there should be further standardization.

Turning his remarks to present conditions, Mr. Henry vigorously admonished the manufacturers to bring down the prices of equipment. He contended that there cannot be any success in the electric railway business until the manufacturers take this course. He cited an instance where a manufacturer had written urging that the railway give an estimate of its requirements for

the following year of a certain material, in order that the manufacturer might be in a position to meet them and stating that the price was so much and there was no prospect of any lower price. As the material had been satisfactory and the company desired not to make any change, the company promptly placed an order. The next day a letter was received from the manufacturer quoting a price of 10 cents a pound less than that at which the order was placed and saying there was a supply on hand for immediate delivery.

Mr. Henry spoke of the great reductions in the prices of raw materials and contended that these reductions had not been passed along to the consumer purchasing manufactured articles. His remarks were general in character and applied to manufacturers in general lines of merchandise as well as to those supplying the electric railway field, his criticism being that all along the line they were not willing to bring prices down. But he warned that they would have to for the people had stopped buying, citing as an indication of this fact that on his property alone, the tonnage shipments of freight had been 34 per cent less in last November than in the corresponding month the year before, 38 per cent less in December and 40 per cent less in January. He insisted that the manufacturers have got to come down, that the people will not purchase freely until prices are properly adjusted.

M. B. Lambert explained that Mr. Henry's wail is virtually the one which the manufacturers are making to those who supply the raw materials, and to the railroads because of the extremely high freight rates and passenger rates, and to the hotels and all along the line. He referred to the determined effort which the manufacturers are making to bring about lower prices and said that his company, the Westinghouse Electric & Manufacturing Company, was following the lead of its bigger contemporary with a 15 per cent reduction in wages. He thought Mr. Henry's criticism was too broad in character and said that it would be impossible for the manufacturers to make wholesale reductions, but that they were hoping that broad economic conditions would bring prices down and that they were doing everything possible to hasten this time.

C. E. Sawtelle, Tool Steel Gear & Pinion Company, endeavored to show that the labor cost is the determining factor in the prices of material and equipment and explained that the living costs of employees have decreased but very little and that it was not fair to make material reductions in wages, and that until this were possible it would be impossible to make marked reductions in the prices of gears.

L. G. Parker, Cleveland Frog & Crossing Company, said the manufacturers in the steel industry are using the best minds in an effort to bring about price reductions. He quoted a prominent steel man as saying that perhaps the best way to reduce prices was for them to sell below cost, for, judging from past experience, they would then find a way to produce below that price. Mr. Parker also pointed out that it is the consensus of opinion in the business world that, first, prices will never return to the pre-war basis, and, second, that the new normal price will be from 40 to 50 per cent above the pre-war basis, on account of the increase in taxes, the new level of wages, the higher railroad rates, etc. He pointed out that the price of steel is coming down, and that as this affects nearly everything else there will probably be seen in the next six months a gradual reduction in the prices of manufactured articles in general.

Getting back to the discussion of the future of the association, Harry Reid, president Interstate Public Service Company, proposed the employment of an executive manager for the association whose primary job it would be to execute the work of the association. He indicated that this matter would be taken under consideration by the executive committee at its next meeting.

S. W. Greenland spoke of the reorganization of the National Electric Light Association and the engagement of an executive manager and said that while this had resulted in an increase in dues of 100 per cent, he had paid the present dues more cheerfully because he was getting more out of the association. He thought that such a man in charge of the Central Association work would be able to get a great deal more out of the committee activities than is accomplished at present, and he should also be a person competent to supervise the work of committees.

George H. Kelsay, superintendent power and shops, Cleveland Southwestern & Columbus Railway, made a plea that the engineers be given some form of organization whereby there could be a greater and freer exchange of ideas and experience. He commented that it would seem that the work of the engineers was just as important as that of the traffic men and accountants, who now have separate subsidiary associations. He referred to the success of the meetings of the Association of Electric Railway Men, which comprises the mechanical men of Ohio and Pennsylvania.

H. A. Nicholl, general manager Union Traction Company of Indiana, thought that the association had taken a step in the wrong direction when the number of meetings was changed from three to two and that, if anything, a change in the other direction would have been desirable. He also commented that the meetings were characterized by too much discussion by executives and recommended that programs be arranged for the men who actually are in charge of the operation of the properties. He thought that such programs would be conducive to better results from the association meetings. He suggested that an opportunity be given men who are reticent about speaking to prepare their discussion of papers in advance. He also urged that men should not accept appointment on committees unless they intended to do their share of the committee work, not expecting the chairman to do it all.

An engineer for one of the traction companies expressed the view that under the present arrangement the engineers have practically no voice and they feel that it is not worth while for them to attend the meetings. He said that the upkeep of the cars is exceedingly important, for they are the stock in trade of a transportation company and he felt that the equipment men had not been getting proper encouragement in their work from the higher officials.

Professor Ewing also indorsed the idea of a subsidiary association for the engineers and operating men, for it seemed to him that the men responsible for the actual operation of the properties were not having a voice in the developments made through the association. He thought it was desirable to have some form of meeting where it would not be necessary to write a paper or to make a speech in a formal meeting, particularly in the presence of the boss.

In order that this matter, which had already been proposed at several previous meetings, should receive definite consideration, Mr. Kelsay made a motion, at the

suggestion of M. B. Lambert, that a committee be appointed to report to the executive committee a proposed plan for meetings of the engineers. This motion was passed. While it was before the association, Mr. Hutchins remarked that now that all of the "commendations and indictments" had been expressed, he wanted to urge the adoption of some plan which would bring the engineers back into the meetings. He felt that in the past the work of the standardization committee had not been properly encouraged and that it had fallen down for lack of support.

Mr. Henry moved that the president be requested to call a meeting of the executive committee in the interim between this and the next meeting to consider the various matters which had been suggested, and the association so voted.

Friday Morning Session

In the absence of Mr. Todd, A. C. Blinn, first vice-president, presided at the morning session on Friday. A paper on traffic building was read by Bert Weedon and followed by prepared discussions by L. M. Brown, F. D. Norviel and J. H. Crall. These papers will be published, in abstract, next week.

C. O. Sullivan, traffic manager Western Ohio Railway, Lima, Ohio, emphasized the importance of co-operation between the transportation and traffic departments. He said that the traffic men must know about the limitations and capacity of the transportation department when they go out to get business so that they will not contract for business which will result in a loss to the company, or make promises which the transportation department cannot perform. He also thought that the traffic men ought to be in a position through their contact with the public to make valuable suggestions to the transportation department as to schedules and service.

C. L. Van Aucken, editor *Electric Traction*, prepared a discussion which was read by Mr. Henry, in which he emphasized points made by Mr. Weedon that the traffic man must know his competition and that his success depends on the service he has to sell. He said that the transportation department should turn heaven and earth, if necessary, to carry out the promises of the traffic department. He suggested that perhaps better co-operation between departments could be secured by having the men work a certain length of time in the other departments and by having frequent conferences. He told the traffic men to keep out of their swivel chairs except after 6 p.m.

In response to a question, Mr. Weedon said that more money could be made in handling carload shipments than l.c.l. merchandise. A careful study of the cost of handling l.c.l. shipments on the Interstate lines had shown that the best that could be done was to break even on this class of business, when a reasonable return on the equipment and property used was included. He spoke of the recent installation of overnight freight service between any points on the line between Indianapolis and Louisville and said that this resulted in an increase in the first thirty days of something between 30 and 40 per cent. As to how more business could be secured, he said that it was purely a matter of service, and that whatever success is attending the efforts of the Interstate Public Service Commission is entirely a result of trying to give to the communities what they want.

Mr. Greenland spoke of the need not only to get revenue but to conserve it after it is earned. He said that during the war, when business was very heavy, there

had been many claims for damages and lost freight. The number of such claims had been greatly reduced and a much better feeling toward the company created by arrangement for handling such claims promptly. A special man was assigned to the task of investigating each claim and settling at the first possible moment. He said that in some cases the company had actually paid for damages before investigating a claim, where it was reasonably sure that the claim was correct. Mr. Greenland commented that if a settlement can be made before a claim is entered it results in the development of an excellent feeling. He felt that this prompt settlement plan was one of the best things his company has done.

EXCESS CHARGE ON FARES

Commenting on the proposal in the paper by J. H. Crall to collect an excess charge where cash fares are paid on the cars, Mr. Blinn said that 10 cents additional was being charged for cash fares on the limited trains of the Northern Ohio Traction & Light Company, but he was surprised to hear that the Ohio Electric Railway was refunding this additional charge, and he wondered upon what theory this was being done.

Mr. Sullivan explained that the Western Ohio Railway has been charging an excess of 10 cents for more than two years and refunding the charge where application is made for it, to comply with the order of the utilities commission. Before the 10-cent excess charge was inaugurated, the cash receipts of the company were 60 per cent of the total receipts, but within three months after the excess charge was inaugurated this was cut down to 20 per cent. In other words, the plan was effective even though the excess was refunded. The reason the commission ordered the refunding of the excess was that if it were not refunded it would be equivalent to a rate of fare in excess of 3 cents per mile, which was the limit set by law.

J. F. Starkey, Lake Shore Electric Railway, said that his company was charging an excess for payment of cash fares. The present tariff provides for a ticket fare of 2.7 cents per mile one way, or 2.5 cents per mile for round trip, and 3 cents per mile for a cash fare paid on the car. He raised the question of whether it would not be advisable to petition for a cash fare rate of 3.6 cents per mile, or equal to the steam road rates, and retain a ticket rate of 3 cents per mile. In reply Mr. Blinn commented that he was afraid that a general increase to 3.6 cents per mile on the interurban lines would result in diminishing earnings. Mr. Sullivan said that some of the Ohio lines were now taking up this question informally to see whether they cannot file a cash fare tariff of 3.6 cents per mile, leaving the present 3-cent rate in force for ticket fares.

Another member said that in Michigan the legal rate of fare is 2½ cents a mile, and as the interurban companies are charging this limit at the present time, it is impossible for them to impose a 10-cent excess charge for cash fares. He also spoke of soliciting freight business by going through a manufacturer's plant and seeing what he makes and then trying to get him to do business either with a consumer of his product or a producer of his raw materials located on the interurban line.

MOTOR TRUCK COMPETITION

P. H. Conroy, Tool Steel Gear & Pinion Company, brought up the subject of motor truck competition and said that the manufacturers should co-operate with the

electric lines in educating the public to the true situation in this connection. He pointed out that it costs 300 per cent more to build highways today than it cost thirty years ago to build railroads. He said also that the maintenance of these highways is two or three times as great where they are subjected to heavy trucking as it is where they are used only for pleasure vehicles, and the people should know this. Referring to Mr. Weedon's comment on the absence of profit in handling l.c.l. shipments, he said that the cost could be reduced by greater volume of business, because the same crew can handle more cars with the same labor cost. One way to get a greater volume of business is to arrange for more interchange between companies.

Mr. Greenland said it might be well for the companies generally to take up the slogan adopted by one company of "Ship by Trolley and Save the Highways." C. J. Munton, president Fort Wayne & Northwestern Railway and receiver of the Winona Interurban Railway pointed out that perhaps the association members should go slow in condemning automotive vehicles and the use of the highways for shipping, for they may want to do this themselves later on. He said that his company was considering the advisability of connecting up all the small towns within a radius of 15 or 20 miles with motor bus and motor truck lines, acting as feeders to the electric line. He said that these motor bus lines may show no profit in themselves, but will contribute to the gross business of the electric line, which can be done profitably. He said that one line will probably be established in the near future to try it out, a line which will operate over a state concrete highway and serve a community which now has no way of making direct shipments to and from Fort Wayne. It now takes one week to get a freight shipment from Fort Wayne to this point, only 30 miles away.

T. A. Ferneding, general manager Dayton, Springfield and Xenia Southern Railway, said that the motor truck people should not be permitted to operate in competition with the electric lines without being forced to pay a proper tax for the use of the road. He contended that this was unfair competition, for the electric lines contribute very heavily through taxes to the cost of road construction, from which the motor truck companies under present conditions derive full use with almost no charge. If the motor truck company must pay its share it cannot exist on a fair competitive basis.

Mr. Starkey commented that a number of truck companies in competition with his company had started in business, but that most of them had failed and ceased to operate. He also spoke of an ordinance passed in Sandusky which placed the jitneys under control and caused them to disappear. In this case the ordinance was drafted at the invitation of the city. He also expressed a skeptical opinion on the advisability of increasing electric rates to the steam road level. He believes the interurbans are doing more business now because of the high steam road rates.

Mr. Barnes expressed the view that the companies should find out what the people want and give it to them. He thought that it would be impossible to make any one pay for the use of the public road, for the freedom of this is an age-old custom which cannot be changed in a few years. He referred to the paper presented at Atlantic City last fall by George M. Graham, vice-president Pierce-Arrow Motor Car Company, in which the industry was asked whether it would have the automobile as an ally or competitor. Mr. Barnes said that

every means of transportation is our means of doing business, but in this case it was a question of whether we would have co-operation or competition. He thought the former was much better, and said that it was freely offered by this prominent manufacturer, who probably voiced the feeling of the automotive industry, and that it was up to us to make a choice, but that we must do it soon or the opportunity would pass.

ELECTION OF OFFICERS

In his annual report Secretary-Treasurer L. E. Earlywine pointed out that the financial status of the association is the best since its organization. C. L. Henry, chairman of the nominating committee, then made the following report on officers for the ensuing year, which was confirmed by the association:

President, A. C. Blinn, vice-president and general manager Northern Ohio Traction & Light Company, Akron, Ohio; first vice-president, S. W. Greenland, general manager Indiana Service Corporation, Fort Wayne, Ind.; second vice-president, G. T. Seely, vice-president and general manager Pennsylvania-Ohio Electric Company, Youngstown, Ohio.

For members of the executive committee the following were named: F. D. Carpenter, R. I. Todd, C. L. Henry, H. A. Nicholl, C. N. Wilcoxon, W. S. Rodger, F. W. Coen, J. F. Collins, Harry Reid, H. C. DeCamp, W. D. Hamer and A. R. Baxter.

In accepting this office Mr. Blinn made a few remarks which are reported in the personal columns of this issue. He then brought up the subject of the summer meeting and said that there was such a general feeling that the association should again have a boat trip that he would like to have the matter discussed at this time. He then appointed the following committee on arrangements: S. D. Hutchins, Westinghouse Traction Brake Company, Columbus, Ohio, chairman; Harry L. Brown, ELECTRIC RAILWAY JOURNAL; John Benham, International Register Company; L. E. Gould, Economy Electric Devices Company, and C. Dorticos, General Electric Company.

Mr. Henry expressed himself as being strongly in favor of the boat trip, saying that the association had never hit upon anything which was so completely satisfactory from both a pleasure and business standpoint as the boat trips which had been taken in previous years. After other enthusiastic discussion a motion was made directing the committee to determine at the earliest possible moment whether the boat trip could be had without prohibitive cost, and if so that the boat trip be adopted as the plan for the summer meeting. This was unanimously adopted on a rising vote.

Railway Electrification in Japan

THE Department of Railways of Japan, satisfied that railway electrification has been already tested out in that country sufficiently to assure success, proposed a bill last July in the Diet for the completion of the extensive power system along the Shinano River. According to a statement in the *Trans-Pacific* this bill, calling for an expenditure of 100,000,000 yen, failed by a narrow margin, although railway officials foresee the consummation of their plans in the near future by presenting it in a different form. The development of this project will permit the electrification of about 400 additional miles of Japan's state railways. The scheme for widening the gage and the alternative for double-tracking were both dropped early this year.

Sincerity, Service and Salesmanship*

A "Sermon" on Relations with the Public — The Best Way to Reach the Public Is Suggested by the Expression "One of the Conductors Told Me, and He Ought to Know"

By JAMES P. BARNES
President Louisville (Ky.) Railway

AT THE midyear dinner of the American Electric Railway Association former Chairman Wilkerson of the Illinois Public Utilities Commission talked, straight from the shoulder, the kind of talk that railway operators need today to hear and ponder. His address followed a day devoted to the presentation of papers dealing with all phases of electric railway finance. President Gadsden in closing the business session of the meeting spoke most earnestly of the loss to the industry which resulted from the failure of association members to discuss fully and vigorously the subject matter of papers and resolutions placed before them for consideration. His remarks were especially apropos, for the association had just adopted by viva voce vote and without discussion what is probably the most important and far-reaching resolution that has ever come before any of its meetings. The report of a special committee on the findings of the Federal Electric Railways Commission and the public utilities committee of the United States Chamber of Commerce had just been adopted, and by it the association bound itself to, first, a recognition of the fairness and soundness of the analyses in these reports; second, a recommendation to electric railways to accept these reports as a working basis, and, third, a policy of the most complete service at the lowest possible profitable fare.

Here are three planks which, taken with the code of principles adopted by the association in 1914, form a platform of complete frankness and uprightness in dealing with the public. And now arises the pertinent question: "What shall we do about it all?"

Many of the men in this room were in attendance at Atlantic City when that code of principles was adopted and all of us remember the publicity it obtained. The code was adopted without dissent and bound the association, among other things, to a policy of "full and frank publicity—to the end that proper information may be available to the investor and the public." Again the pertinent question: "What shall we do about it all?"

That was more than six years ago. What did we do about it? Was there a general adoption of the policy of "full and frank publicity" regarding company affairs? Was all proper information made available to the investor and the public? Will we now wholeheartedly adopt the policy laid down in our resolution of latest adoption and sincerely meet the public representatives on the program laid down in the two reports of the federal commission and the United States Chamber of Commerce?

If we do not do these things then the time has come for us to hand in our resignations and let our better qualified successors be chosen, for only on the basis of fair-minded, clean-handed open dealing can the traction problems of this country be solved in the future.

Mr. Wilkerson in the address referred to summed up our situation in the language of a man familiar with that of which he spoke and toward the close of his address made this significant statement:

You must organize and you must fight. I know that some good work has been done, but I know that you will pardon me when I say that my observation has been that it has not been carried on with the zeal that the righteousness of the cause requires . . . There is need for straightforward and emphatic expression. . . . You must reach the people. . . . Make no mistake. The courts cannot save you. . . . If you get the people back of you, if you can convince them that you have been right and are right . . . they will take care of the politicians and the dishonest newspapers.

Here, summed up in the words of a thoughtful, experienced utility commissioner, is the golden rule for the conduct of a great public service. Built on the foundation of right, honesty, fair dealing, and good service, the structure of our utilities shall stand and serve as long as society requires transportation.

HOW SHALL THE PUBLIC BE REACHED

Now it is one matter to say "convince the public that you are right" and quite another to do that thing. But it is not impossible. Here applies with double force Mr. Wilkerson's criticism of our lack of zeal. Often have we overlooked the obvious and neglected the available means of carrying our problems home to the people we serve.

Chairman Jackson of the board of trustees now operating the Boston Elevated Railroad recently remarked that in his two years on that board he had received and reviewed many service complaints of all shades of intolerance and criticism. "But," said he, "I do not remember ever to have seen a complaint from a motorman or conductor of the treatment he had received from a passenger." The universal application of this expression of the one-sided practice of patience involved in everyday service will be recognized by every railway operator. Truly, compared to many of the uniformed men whose daily life consists largely of "fares, please," "transfer?" and "please step forward," Job was an amateur.

Many a superintendent and instructor has concluded his remarks to the new employee with "and remember when you get out on your car and go up against the public you've got to be prepared to co-operate for two." And generally the instructions are well received and thoroughly executed by the "boys in blue," who, after all is said, compose the forces which wield for better or for worse that powerful two-edged sword of public opinion.

We are prone to forget these first-line troops of ours, however. We forget that they are in action day after day and the impression made by that parting injunction of the "super" will not forever outwear the friction of continuous contact with the riding public. Most men mean to be cheerful in the course of their daily concerns, but on the back platform especially one's inclina-

*Address presented at the annual meeting of the Central Electric Railway Association, Toledo, Feb. 24, 1921.

tion in this direction frequently suffers purely from lack of example. Example is better than precept, and the need of an example of cheery compliance with the law of service for the greatest convenience of the greatest number must be met—if not by the public then by the public servant.

We are all prone to forget how many passengers form their opinion of a company solely from the treatment they are daily accorded by its employees as they travel to and from their places of business. Public opinion—much considered and discussed but too elusive and intangible for definition—is nevertheless the foundation of successful traction, and properly to understand and analyze its qualities we must know what it says and whence it springs. Its criticisms must be met fairly and openly and, when just, satisfied. The example of cheerful and respectful hearing, consideration and action must come from the officers and be carried down through subordinates to the men actually in close daily touch with the public, whence spring these criticisms.

More fully than has been generally recognized the public opinion of this industry is the opinion of the people who ride. Too often our ears are open and our attention alert to catch the comment of the so-called "influential citizen," and too seldom to heed the complaint of that great body whence come the 5, 6 or 7-cent increments of our life's blood.

Too often are our explanations and appeals directed to the ears of the few and not to the many who are the riders and supporters of our business. Too often are we in the position of the large retailer whose trade is cosmopolitan but whose advertising is carried in the medium of exclusive circulation. We tell our troubles to the banker, the financier, the manufacturer, and forget that time-worn expression, "Tell it to a policeman, everybody's friend."

Our message is, and must be if it is to be successful, for the ears of everybody. When everybody has full information and all reasonable explanation of mooted points Utopia will not, perhaps, be realized, but at least, we shall be better off than now. Not until we get this habit in thought and in deed of "telling it to everybody" will we get our message completely across, and even then we may have all the trouble, and more, that Peter Grimm had with his comparatively simple story.

We serve the people more frequently and more personally, perhaps, than any other utility, and we must understand and be understood if the great intangibles, "public convenience and necessity," are to be allies instead of enemies.

We err if we do not grasp every opportunity and utilize every agency to bring about the complete understanding of and sympathy with our problems which must be the foundation of that magnificent superstructure—co-operation—which is the design and aim of us all. We have suffered much and learned much in the trying times of the last few years. Bitter lessons and costly have been ours, and to the credit of the industry be it said that they have been learned with a maximum of fortitude and a minimum of complaint.

The sun of optimism which peeped through the clouds of adversity at Atlantic City last October for the first time in many weary months has been encouraged more than by any other thing by the work of our association and individuals in bringing about public understanding

of our situation. We have learned to use the association, the committee reports, the newspapers and many other agencies of publicity, but have we not neglected the most useful and the most available agency, perhaps because it lay at our very door?

MAKE THE MOST OF THE TRAINMEN'S PUBLIC CONTACT

We enjoy in marked degree the privilege most eagerly sought by all progressive sales organizations—that of frequent (in our case almost continuous) contact between our sales force and our customers. Twice a day do most of our customers transact business over our fare-box counters, and each time an opportunity is presented for the making or unmaking of favorable opinion of our business methods.

Every street car conductor is a salesman for his company, and upon his handling of his passengers depends the quality of public opinion for the particular group that he meets. More frequently than we realize the platforms of our street cars become the public forums for discussion of the good and ill of street-car service, and many an opportunity is opened for the well-informed man to correct popular misunderstandings, and interject the "soft answer which turneth away wrath." A phrase or sentence here or there is passed on until it reaches the dignity of the oracle backed by the authority of "one of the conductors told me, and he ought to know." There's the rub—He *ought* to know—but do we always give him the opportunity to find out? A well-informed conductor becomes a boosting publicity agent if his information consists of sound ideals of service; and if it doesn't we had better change the ideals, and do it quickly!

To mention only one of many matters prominent in the platform discussion may illustrate: Rates of fare and transfer rules are based upon reasonable considerations, else commissions would not permit their continuance. How often is the street-car platform discussion of the questions enlightened by true explanation, based on facts? Not often enough. Then whose fault is it? What would we say in criticism of the sales manager who sent his salesmen out to sell without first making sure that the nature and prices of their goods were understood by them? What would we say of the sales manager who assigned to his men no reasons for the rules and regulations under which they must sell their wares? Is it sufficient reason that the orders read thus and so, that there need be no reason for the orders? And if the reason is a good one, does not the telling of it strengthen the order? Publicity never weakened a righteous cause or lost a just fight. The reason why can still the fretful "why not?"

Those from whom we would have frankness in dealing are entitled to frankness in return, and if rules, rates or regulations are attacked then, in all fairness, we should furnish ammunition for defence or revise the offending text.

A famous hotel-keeper has built a fortune around the text "The guest is always right." Present-day methods in mail-order houses, department stores and other concerns dealing directly with large numbers of individuals have prospered by similar means. How much good will has been added to the nation's daily life by the inclusion of the word "please" in the invariable telephone greeting from central? How much more might be added if the nation's street-car business were put on a corresponding plane of "the voice with the smile"?

Truly, our sales problem has become that of selling ourselves to our employees. If we truly stand on the platform of the best service to all comers we will turn our attention and our best efforts to the problems of selling this ideal to ourselves from top to bottom of the organization. Let every street car be a mart where service is measured by the Golden Rule, and there will be service and satisfaction run together to the goal of public content and a new dawn will break over the industry.

In another sense have we a sales problem. That of selling our proposition to ourselves! Deliberately I say that we do not know all that we should of our own properties and problems and those of our neighbors. No railway man with open mind can take his pair of eyes and pair of ears to such a meeting as this without bringing back ideas gleaned from his fellows, which will improve his own operation. That man who has reached a point where he feels his operation is not susceptible to improvement has indeed started backward and we may eliminate him from our discussion as the industry will eliminate him from its ranks.

It would be strange indeed for a newcomer in the ranks of this association, known throughout the country as an active, effective, working unit, and a monument to its builders, to come forward with suggestions or criticisms regarding its plans and methods. Criticism is far from my purpose, and suggestion in concrete form is beyond my capability. This is the first C. E. R. A. meeting I have been privileged to attend. My reference to association activities must then be in general terms and in form of inquiry.

Are we, in this association, doing all we can to serve as a clearing house for information so that our membership may be kept advised by correspondence, by discussion, and by personal interviews of the kaleidoscopic changes of daily occurrence in our territory and throughout the country? Are we giving to our subordinate officials all the opportunities that could usefully be given for interchange of ideas and mutual improvement? Are we furnishing the means for the experience of each of us to be made quickly, fully and intelligently available for the good of all? Are we providing means for the application to any particular problem, local or general, of the averaged and balanced results of the experience of all of us?

If these things are not now being accomplished then our discussion of the future of the association should surely take the form of a discussion of ways and means to bring these things about that each may assist all, all assist each and the whole plan of our activities run to the one ultimate object—Best Service to the Public.

Superpower Plans Outlined

Secretary Payne Explains in Progress Report the Present Requirements, the Expected Savings and a Possible Financial Plan—Complete Report Expected to Be Finished by June 30

ON FEB. 24 Hon. John B. Payne, Secretary of the Interior, submitted to President Wilson a progress report on the superpower survey being conducted by W. S. Murray and staff as part of the work of the Geological Survey. The complete report, it is expected, will be finished by June 30, 1921.

According to the preliminary report the survey has found that there are in the area under consideration 14,500 miles of track of Class A steam railroads, 36,000

miles of total trackage and 10,000 steam locomotives and that there was a total coal consumption for railroad purposes during 1919 of 19,000,000 tons. About 33 per cent of this trackage can be economically electrified and this mileage will carry from 50 to 60 per cent of the traffic. This electrification will mean an annual saving of 6,000,000 tons, or \$40,000,000, besides an annual saving of \$50,000,000 in engine repairs and maintenance. The total cost of this electrification would be \$40,000 per mile of main track, which for 12,000 miles would be \$500,000,000, and \$300,000,000 for tracks and siding electrification. There would be a salvage of \$150,000,000, and the return on the \$650,000,000 required would be approximately 14 per cent on the investment.

It is expected that the superpower system in 1919 would have saved the industries in the area mentioned between six and eight million tons of coal and that by electrification the anthracite mines would have saved 6,500,000 tons in addition. The utilities in the section covered by the survey use 8,000,000,000 kw.-hr. of energy generated from coal at an average coal consumption of 2½ lb. per kilowatt-hour. The expected reduction to 1½ lb. by the superpower plan would effect an annual saving here of 4,000,000 tons annually.

Water power available in the zone could supply 12,000,000,000 kw.-hr. and for a minimum year 8,360,000,000 kw.-hr., the plant capacity required being 2,300,000 kw. It is expected that in 1930 the total requirements will be 48,000,000,000 kw.-hr., of which the superpower system could supply 36,000,000,000 kw.-hr., so that the water power supply in the ultimate system can be but from 20 to 25 per cent of the total.

FINANCIAL PLAN CONTEMPLATED

The financial plan in bare outline provides for a superpower company with a non-par stock as its only class of security. The public utilities within the Boston-Washington zone would be entitled to subscribe for this stock pro rata, based upon capacity demand, and load factor and stock not taken by these customers of the superpower system will be offered to public subscription.

A contract between the superpower company and a local public service company would be a selling contract or a buying contract, while in many cases both buying and selling of current would be involved. These contracts, on which the state regulatory bodies would pass, would be adjusted from time to time to meet the progress of the art and changing conditions, whether favorable or unfavorable to costs of operation. Returns upon the stock of the superpower company, according to the plan, should be limited by specific provision to a fair division of the benefits derived from its operation between the investing public and the consumers. This division would be attained by a rule under which the customer companies shall participate equally with the stockholders in any distribution, at stated intervals, of net earnings in excess of a specified rate of return, which itself should be more liberal than is commonly contained in the idea of public regulation. Thus efficiency in management would be rewarded and the public interest directly served. To secure the participation of the ultimate consumer in this division of benefits it is suggested that the superpower stock held by any public service company should be regarded as representing an extension to its existing station capacity rather than an outside investment security.

Electrification an Economic Necessity

Heavy Traction Expert Outlines Broad Principles Which Must Be Considered in the Application of the Electric Motor to the Solution of This Country's Transportation Problems

AT A well-attended meeting of the electrical section of the Franklin Institute, held in Philadelphia on Feb. 24, A. H. Armstrong, chairman electrification committee General Electric Company, Schenectady, N. Y., read a paper on the economic aspects of heavy electric traction. W. C. L. Eglin, chairman of the section, presided. Mr. Eglin is electrical engineer of the Philadelphia Electric Company, which supplies the power for the Philadelphia-Paoli-Chestnut Hill electrification of the Pennsylvania Railroad. During the delivery of the address an interesting series of appropriate lantern slides was shown. These depicted recent snow scenes on the Milwaukee electrification, as well as typical heavy electric traction scenes in this country and abroad.

Mr. Armstrong began by pointing out that it is a matter of grave national concern properly to diagnose the true character of the ailment affecting our transportation system and to prescribe the treatment of greatest promise for its future recovery. The congestion on main lines is in many cases acute, and under such conditions the steam locomotive imposes its limitations on the physical and economic showing of a railway property. We want, he said, cheaper and quicker transportation over existing tracks, more reliable service, less congestion at terminals and proper provision for future growth of traffic.

Continuing, he pointed out the apparent impracticability of making such fundamental changes in railway operation and economics as are necessary to accomplish the desired results simply by investing still greater sums in the old steam engine facilities, which have, in the opinion of many, failed to advance with the needs of the times. Furthermore, during the past twenty years serious competition has entered the field of the steam railway transportation in that electric railways have taken over the short-haul passenger traffic and have created new traffic, while the gas motor truck has captured much of the short-haul express movement at the expense of both the steam and the electric railways. When comparatively small trucks bumping over public highways, not too well maintained at the taxpayers' expense, can successfully compete with rail transportation something evidently has occurred during the past few years which calls for a readjustment of previous ideas of transportation. The question then arises, has the railway operator, in his effort to reduce ever-increasing operating costs, been too busily concerned in running his huge transportation machine fully to observe the industrial needs of the country and to appreciate the evident value placed by the shipper upon speed? Our present railways do not properly serve the more congested districts through which they pass, and our railway directors have themselves to blame if they do not profit from a recognition of the facts underlying the growing menace of motor truck competition.

Coming to the place of the electric motor in the solution of the transportation problem, Mr. Armstrong said that electricity has amply proved its effectiveness in the operation of light high-speed trains in congested zones. Steam traditions of a "busy track" have been shattered by electric train performance. Not only is the electric

motor pre-eminently fitted to meet the needs of short-haul, frequent-stop service, but it gives opportunity to relocate and redesign the whole terminal railway property along lines impossible with the steam engine. This is illustrated by the development which has taken place in New York City at the Grand Central terminal of the New York Central Railroad, and at the Pennsylvania terminal in the same city. And in addition to the passenger terminal development, the way has been shown to the solution of the equally vital problem of handling freight and express matters in city terminals. The steam terminal is not immediately adjacent to the shipper or center of distribution in a large city, nor is it well adapted to the expeditious or economic handling of freight. The electric terminal, on the contrary, may be located with proper regard to the needs of the shipper in the very center of the city if necessary.

THE ELECTRIC LOCOMOTIVE HAS SEVERAL INTRINSIC VIRTUES

Taking up the electric locomotive, Mr. Armstrong rated it as the most efficient and flexible known means of transforming potential into mechanical power. Based upon the performance of sixty huge electric locomotives operating over nearly 700 miles of route on the Milwaukee Railroad and on other data of record, it has been estimated that the passenger and revenue freight tonnage of the United States could be hauled by electric locomotives for one-third the coal now burned under steam engine boilers. The electric locomotive also offers great advantages for relieving the congestion on mountain-grade divisions, which has reached such a point that additional rails must be laid to obtain the needed relief with continued steam operation. In comparison with the steam locomotive the electric locomotive can not only develop equal pull but can sustain full tractive power at double the speed. It furnishes the opportunity to enter into an era of real unrestricted railroading with the "motive power lid removed." The development of the more powerful electric locomotive is the determining factor in the matter of grade revision, double tracking and mountain division operation.

Another marked advantage of the electric locomotive which was pointed out is its great reliability and consequent low cost of maintenance. For a period of ten years, or until the "high cost of living" struck the electric locomotive, the 120-ton New York Central electric locomotives were maintained for approximately 3½ cents per mile run, a noteworthy achievement when compared with the upkeep of steam engines of equal power. Even during 1919 the Milwaukee locomotives, weighing nearly 300 tons and making some 60,000 miles a year, were maintained for approximately 15 cents per mile, or less than one-third the upkeep of Mallet engines of equal tractive power. Again, cold weather does not affect the electric locomotive, in striking contrast to the frozen steam engines of the winter of 1917-18, while its greater safety and reliability on grades are matters of record. The possibility of regenerating power also should not be forgotten.

Summing up, Mr. Armstrong said that electrified terminals to large cities should revolutionize present steam engine practice and not only effect economies in operation but greatly stimulate traffic by introducing radical improvements in facilities. With no immediate prospect in sight of any material reduction in the price of labor, its output must be increased, and electric operation has demonstrated its effectiveness in this

direction. In addition, locomotive division points may be indefinitely extended. All of these improvements in the electrified railway property will cost large sums of money, although in some items of operating expense, such as fuel, crews and maintenance, direct savings are effected of such magnitude as to show a reasonable return upon new capital charges incurred. The argument for electrification, however, is built upon a broader foundation than a direct return upon the investment. It has to do with the vital question of the future growth of our transportation system and its effect upon our national prosperity.

After the reading of the paper Mr. Armstrong was

asked several questions, particularly relating to electrification costs and mileages. He said that the original 440-mile electrification on the Milwaukee cost about \$13,000,000. This included forty-two regular and two switching locomotives. This figures out at about \$28,000 per route-mile or \$18,000 to \$19,000 per single-track mile. The regular locomotives cost about \$130,000 each and they replaced 112 steam locomotives, worth new about the same in total as the electrics; hence the items of locomotives about offset each other. The last 220-mile electrification on this road cost more, having been carried out in wartime, the increase being roughly of the order of 50 per cent.

Mr. Beeler Studies Traffic in Paterson

Makes Exhaustive Report on Existing Conditions Together with Suggestions for Relieving Vehicular Congestion that Is Stagnating Paterson's Main Thoroughfare—Localized Traffic Centers for Dual Transportation Systems and Through Routing of Trolleys Among the Recommendations

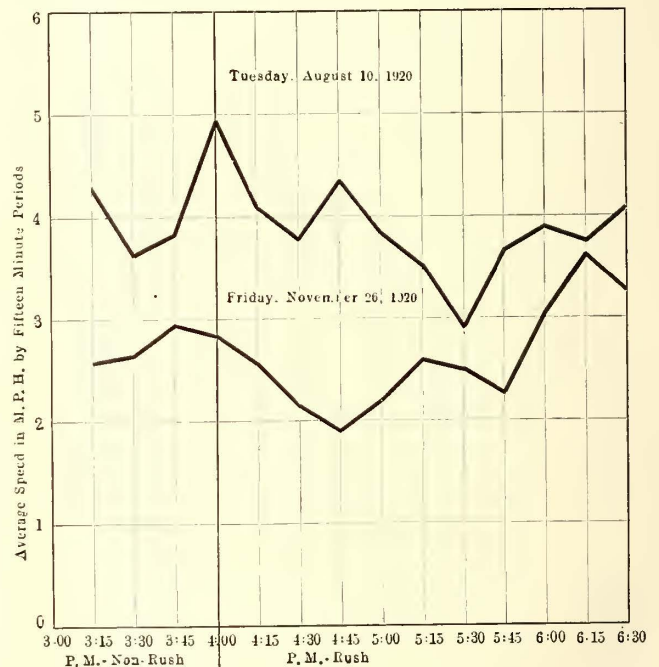
IN A TWO volume report, with maps and tables, John A. Beeler, consulting engineer, New York, analyzes existing traffic and congestion in Paterson's business district and make suggestions for rerouting trolley cars and jitneys that now get in each other's way, with the result that during the evening rush hour all vehicular traffic in the center of the city moves at a rate of less than 3 m.p.h.

Paterson, the third largest city in the State of New Jersey, has a business district of but three main streets to serve a quarter of a million people. All trolley routes focus on the section of Main Street between Market and Broadway, from which most of the cars return to their point of origin via loops, while a few only are through routed. The safety cars that have been installed recently on all the local lines on shorter headway have caused a consequent increase in the number of cars in the central section. In addition, many jitney buses enter the heart of the congested district to deliver passengers and on their outbound trips practically all go through Main Street.

The accompanying diagram indicates car speeds in this central section. The average speed for a three and one-half hour period was but 2.7 m.p.h., while for a single fifteen-minute period it dropped as low as 1.9 m.p.h. This is obviously slower than walking. An abstract of Mr. Beeler's findings follows:

In the business district the designated passenger car stops average fifteen to the mile, whereas eight stops per mile is good practice. The stops in the central districts should be so relocated as to be convenient and safe, yet reduce to a minimum the interference with other vehicular traffic. Thus the number of stops can be brought down from fifty to thirty-seven. Double berthing of cars is recommended at the fourteen busiest stops, raised loading platforms to accommodate two cars each at three points and safety zones marked with stanchions at certain stops.

Repeated observation has revealed that the standard jitney practice attempts to give the same headway as the car line, with the buses leaving a minute or two in advance of the cars. This practice fails to give any real additional transportation service, for it simply provides extra seats that are not needed, as the cars are



INDICATED CAR SPEEDS IN THE CENTRAL AREA OF PATERSON

very seldom filled to capacity even in the rush hours. The only benefit that could accrue to the city from jitney operation would be to have them routed where there is no car service. If the jitneys are unwilling to submit to such a change in routing, it is questionable whether they are of sufficient benefit to the city to justify their retention.

All jitney lines now loop in the business district of the city, with the result that they are turning at the most congested points and are not only delaying vehicle traffic but wasting much of their own time. If jitney operation is to be continued, a terminal loop should be used near the center of the city but away from the car lines.

Jitney loading is found to cause some delay and congestion, largely because they almost invariably stop so far from the curb that other vehicular traffic must also stop. Loading should be at definite and plainly marked

points where other vehicular parking should be prohibited. The jitneys should be required to pull in to the curb. The present plan of diverting through truck traffic from the center of the city can be extended by keeping all heavy trucking away from the Main Street congested district, except for the necessary purpose of loading or unloading to abutters.

The left-hand turn causes the most delay and confusion at street intersections. Observations at Main and Market Streets from 5 p.m. to 6 p.m. showed 100 left-hand turns out of a total of 410 vehicles at that corner, in addition to 144 street cars. At its widest point, Main Street is barely wide enough to allow a row of parked vehicles, a row of moving vehicles and a row of moving street cars in each direction. At the more important intersections the roadway is even narrower. As a means of lessening congestion indiscriminate parking of motor and horse-drawn vehicles can be limited or prohibited at car and jitney stopping points.

STREET CARS SHOULD HAVE RIGHT OF WAY

It has been demonstrated that the maximum amount of traffic can be moved through an intersection when the street cars are given the right of way. In Paterson, the proposed car stops have been arranged so that many cars are ready to move immediately on the traffic officer's signal. Positive stops required only for safety purposes should not cause delay, as loading is not to be permitted at such points.

The adoption of these recommendations, the report claims, will be followed by an improvement in traffic conditions, for congestion will be reduced even though parking privileges have been retained and a dual transportation system of street cars and jitneys is operated within the confines of such a limited business district.

Unquestionably the modern street car is the most reliable, safest and economical urban transportation unit, provided the volume of business warrants the construction of track and plant. Were it not for the fact that the street railway provides service, whether remunerative or not, to all points at any time of day and cares well for rush-hour traffic, the unregulated jitney would never be tolerated.

STREET CARS AND CONGESTION

The loop routing of the street cars at each end of the important business section, which is only a short city block of 300 ft., is one of the principal causes of congestion. All but two of the car lines, which are through routed, make one of these loops. In general some advantages of the loop system are:

1. That each section of the city is served independently, thus confining delays to that section.
2. Makes for shorter routes.
3. Allows better adjustment of service to fit traffic conditions.

In Paterson there are also some disadvantages, which are classed as:

1. Cars must be sent across the congested district merely for the purpose of taking the loop, thereby causing congestion and resulting in slow operation in the densest traffic.
2. Causes more transferring of passengers, as all crosstown passengers must change cars in the center of the city.
3. Causes duplication of cars and service and creates congestion due to loop cars being used entirely for unloading or loading, while in the business district,

whereas compared with through routed service, loading and unloading is done simultaneously when cars pass through the business district.

4. No layover is possible on a common loop used by several routes to keep the cars on proper headway.

The disadvantages outlined for the loop system are almost impossible to overcome, but the advantages can be incorporated in a system of through routing. In Paterson a material gain can be made in reducing congestion by through routing all possible lines.

CHANGES IN ROUTING

Interurban lines should be routed to give the maximum benefit to the communities connected. Such routes cannot be entirely successful if compelled to handle much urban business or traverse the tracks of local urban routes. Experience shows that interurban cars have a tendency to block the locals and delay them.

In Paterson, several lines enter the heart of the city from various outside communities. On none of these is there any distinction made between local and through passengers. In order to provide better service, the interurban cars should be run on express schedule, stopping for passengers only at designated points. These points should be at the principal loading corners and all transfer points, but they should average not less than 1,200 ft. apart.

Observations show that on practically all of the local lines a large number of passengers ride only a short distance from the center of the city. Short line service is recommended to give better service on four routes. A maximum of service to all patrons will result, as more even service can be given to the outer ends of the lines.

IMPROVEMENTS IN OPERATING METHODS

Another factor that contributes in no small measure to the low schedule speed is the slow fare collection, which is caused by excessive change making for a large number of passengers compared with the old nickel rate, when about 90 per cent of the passengers had the exact fare. Some of the advantages of even fares can be obtained by the use of tickets or metal tokens sold in quantity or used by the conductor in making change.

The report also suggests that each car should be conspicuously marked with both route and destination signs and that all stopping places in the congested area should be plainly marked by car stop signs hung from the span wire at the exact point where the front end of each car will stop. Signs with the words "Car Stop"—or at double berth stops "Car 1" and "Car 2"—should appear at the more important loading points and particularly at railroad station stops. Information should also be posted at abandoned stops on Main Street directing prospective passengers to the new locations.

A telephone dispatching system with connections at the end of each car line, and other important points controlled by central dispatchers to whom trainmen report before leaving starting points, will do much to keep the cars on proper headway and render the service more flexible. This method is superior to starters at terminals, as it keeps all cars in touch with a central authority and makes it possible to minimize irregularity.

The report also recommends that two additional lines be equipped with safety cars. This would make for a complete installation of cars of uniform design and appearance with the exception of the larger cars on the interurban lines.

Association News

Steps Taken Toward Cable Standardization

THE representatives of bodies interested in considering the advisability of undertaking the development of standards for wires and cables, other than for telephone and telegraph use, met on Feb. 2, 1921, at the Engineering Societies Building. The meeting was called by the American Engineering Standards Committee at the instance of the American Railway Engineering Association. Practically all the interests invited were represented by one or more individuals. Charles R. Harte, construction engineer the Connecticut Company, was the delegate for the American Electric Railway Engineering Association. It was unanimously voted that A. A. Stevenson, chairman of the American Engineering Standards Committee, who called the meeting to order, be requested to retain the chair. A preliminary note regarding the meeting was printed in the issue of Feb. 26. More details are given below.

The first question of whether unification should be undertaken was fully discussed by nearly all of the representatives present. It was agreed that the specifications and standards of the various organizations working in the field had generally been along similar lines and that it was desirable that they be unified so that uniform national standards might result. This work should be undertaken with a single general plan covering substantially all the more important uses. It appeared to be the unanimous opinion that the scope of the work should be limited in such a way that it would be a unification of specifications and standards already in existence rather than an attempt to formulate entirely new standards, except in fields not already covered. After a rather full discussion of the details of the subjects which should be covered it was decided that these should comprise the quality and stranding of the conductors, the various kinds of insulation and coverings and the sheath and armor.

It was the consensus of opinion that in order to promote export trade it would be desirable to have all the American wire and cable standards assembled in a single book. This form of publication, while giving due credit to the participating organizations, would appear to foreign wire and cable purchasers as a complete book of American standards rather than as the standard of societies comparatively unknown abroad. This has been done in a very thorough way by the Germans and also to a considerable extent by the British, thus placing Americans at a decided disadvantage in foreign trade. It was agreed that if such a book were prepared and given proper publicity in foreign countries it would remove one of the greatest difficulties under which American manufacturers now labor in developing export trade.

During the discussion of the various matters before the conference frequent reference was made to memorandum presented by the representatives of the American Institute of Electrical Engineers, summarizing reasons for undertaking the work, outlining what they consider a desirable scope for it, and sketching an outline for a committee organization for carrying it

out. It stated that by far the largest single item of expense in electrical engineering projects is the cost of wires and cables. Also the element involving the greatest risk of life and property and of continuity of industrial power is in the wire and cable system. If standardization can reduce costs and decrease risks, it is obvious that this field presents unusual opportunities. Much work of an excellent character along the line of standardization of wires and cables has already been done, mostly, however, by organizations working in behalf of special industries. While a spirit of co-operation has prevailed, special requirements of those industries have created certain divergent tendencies which are probably susceptible of being reconciled by properly organized co-operation.

Two-Cent Coin Bill Dies

AT A meeting Feb. 26, 1921, in the Washington office of the association it developed that there was practically no chance of the 2-cent coin bill going through, it being too far down on the calendar to be called up. No further steps will be taken, as the bill dies automatically March 4.

Buildings and Structures Subcommittee Meets

A MEETING of the buildings and structures subcommittee No. 2, which is to report on the design of a typical shop building and shop layout, was held at association headquarters in New York City on Feb. 17. Those present were N. E. Drexler, Newport News & Hampton Railway, Gas & Electric Company, chairman; D. E. Crouse, Rochester & Syracuse Railroad, and C. W. Squier, ELECTRIC RAILWAY JOURNAL, the last-named representing the committee on equipment, which is co-operating with the buildings and structures committee on shop design.

After a general discussion of the subject was had the details were divided among the two committees and several subjects on which it is necessary to have information were outlined so that this could be obtained as soon as possible. The two committees will hold a joint session again some time in March.

Association Aiding I. C. C. in Determination of Depreciation Allowances

ON FEB. 5, 1921, the committee on a standard classification of accounts held a meeting at association headquarters, in accordance with action taken by the executive committee of the American Association, to consider the subject of depreciation as prescribed in the transportation act of 1920. Those present were H. L. Wilson, Boston Elevated Railway, chairman; Robert N. Wallis, Fitchburgh & Leominster Street Railway, and P. S. Young, Public Service Railway, Newark, N. J.

The transportation act of 1920 amends section 20 of the act to regulate commerce by providing that the Interstate Commerce Commission is to prescribe the classes of property for which depreciation charges may properly be included under operating expenses and the percentages of depreciation which shall be charged with respect to each of such classes of property. The carriers subject to this act are not allowed to charge to operating expenses any depreciation charges on classes of property

or a percentage other than those prescribed by the commission.

The depreciation section of the Interstate Commerce Commission asked the co-operation of the American Association in the determination of these depreciation allowances and at the Chicago meeting of the executive committee the matter was referred to the committee on a standard classification of accounts. The committee discussed the subject generally and decided that it was necessary to have a conference with F. S. Fowler, chief of the depreciation section of the Interstate Commerce Commission, before it could proceed further with the work.

Engineering Executive Committee Meets

A FORMAL meeting of the executive committee of the Engineering Association was held at association headquarters on March 1, 1921, to consider special matters that had come up since the last convention.

Among those present were: President W. G. Gove, Brooklyn Rapid Transit Company; C. H. Clark, the Cleveland Railway; H. A. Johnson, Metropolitan West Side Elevated Railway; C. S. Kimball, Washington Railway & Electric Company; A. B. Stitzer, Republic Engineers, New York; J. W. Welsh, special engineer of the association, and E. B. Burritt, secretary.

Among the matters discussed was that of the resignation of First Vice-President C. L. Cadle, who is now superintendent of public works, State of New York. Under the terms of the constitution and by-laws it is within the power of the executive committee to fill this vacancy. The consensus of opinion, however, was not to fill the vacancy at this time and therefore any action was unnecessary.

J. W. Welsh reported on the work of the several standing committees. His report indicated that matters were well in hand and that the work for the ensuing year was progressing satisfactorily.

The standing committees had requested executive action be taken on several subjects. The committee on power distribution had asked for approval of the American Institute of Electrical Engineers being appointed sponsor for the specifications of aluminium wire, which was granted.

The request of the committee on way matters for permission to co-operate with the American Society for Municipal Improvements in the discussion of pavements and tracks in general was granted.

A plan was developed whereby the existing standards of the association may be brought promptly before the American Engineering Standards Committee for their approval. Under this plan each chairman of a standing committee will select such of his own existing standards as he desires to submit. Each standard in the list, accompanied by a history drawn in accordance with the rules of the committee, will be submitted to the Standards Committee of the association at its next meeting. After the selection has the approval of the last-named committee the matter will be turned over to the association's representative on the American Engineering Standards Committee for presentation to that body and approval.

The executive committee voted power to the president to appoint, with the secretary of the American Association, representatives with power to act on matters before the American Engineering Standards Committee. On this basis the appointment of Martin Schreiber

as the official representative of the association, A. B. Stitzer as the association's representative on the subcommittee on terminal markings, C. R. Harte and F. J. White as the association's representatives on the subcommittee on wires and cables and C. W. Squier as the representative on the subcommittee on standardization of pipe flanges and fittings were approved.

It is planned to hold the next meeting some time in the early part of June.

Cost of Freight Traffic to Be Studied

THE joint T. & T. and Accountants' committee on express and freight traffic promotion and costs met at association headquarters on March 2 to plan an investigation as to what freight traffic on electric railways actually costs.

Those present were F. W. Coen, Lake Shore Electric Railway Company, chairman; A. R. Baxter, Indianapolis & Cincinnati Traction Company; T. C. Cherry, Rochester & Syracuse Railroad Company; J. H. Crall, Terre Haute, Indianapolis & Eastern Traction Company; L. T. Hixon, Terre Haute, Indianapolis & Eastern Traction Company; L. E. Lippitt, Auburn & Syracuse Electric Railroad Company; C. K. Savery, Connecticut Company; T. H. Stoffel, Westinghouse Electric & Manufacturing Company; C. E. Thompson, Chicago, North Shore & Milwaukee Railroad; A. F. Van Diense, Columbus, Delaware & Marion Electric Company, and W. K. Zinmeister, Rochester & Syracuse Railroad Company.

The committee considered the classification of accounts prepared by Mr. Zinmeister, made certain corrections and extensions and finally approved a form of classification which will be forwarded to a selected list of companies doing freight or express business. They will be requested to keep their freight and express accounts in accordance with this classification for a period of three months beginning March 1. The purpose of this phase of the committee's work is to secure actual figures as to what the cost of this service would be.

The chairman will assign to various members of the committee the duty of taking up the question of the adoption of this classification personally with executives of companies in their territory.

February Bulletins Now Available

SIX special reports and compilations were prepared by the Bureau of Information and Service of the American Association during February. One is a comparative financial statement of a large group of electric railway companies for 1920 compared with 1919. A second is a summary of replies on the free transportation furnished to employees and others. The third is a supplement to the previous compilation on one-man cars, giving information from six additional companies.

The titles of the other reports follow: "Analysis of Labor Agreements of Interurban Companies," "Effect of Establishment of 10-Cent Cash Fare," "Percentage of Ticket Passengers and of Free Transfers for a Number of Companies Having Various Cash and Reduced Ticket Rates of Fare."

In addition, up-to-date supplements have been prepared to the bulletins on wages of trainmen, cost of living and fares.

Meeting of Way Committee Well Attended

A MEETING of the committee on way matters was held at the association headquarters in New York City Feb. 23. The entire personnel of the committee, with one exception, was in attendance, and this one was excused from attending due to his long distance from New York. Those present were R. C. Cram, Brooklyn Rapid Transit Company, chairman; H. A. Abell, New York State Railways; C. A. Alden, Bethlehem Steel Company; Victor Angerer, William Wharton, Jr., & Company; W. R. Dunham, Jr., the Connecticut Company; E. B. Entwistle, Lorain Steel Company; H. F. Flowers, Differential Car Company; H. H. George, Public Service Railway; W. F. Graves, Montreal Tramways; E. M. P. Ryder, Third Avenue Railway, and T. B. Skelton, Metal & Thermit Corporation. Others present who were invited to furnish information and co-operate with the committee were H. A. Benedict, Public Service Railway; J. C. Jameson, Dayton Mechanical Tie Company; H. F. A. Kleinschmidt, Lorain Steel Company; C. W. Squier, ELECTRIC RAILWAY JOURNAL, and R. W. Steigerwalt, Carnegie Steel Company.

A general discussion of the eight subjects on which this year's way committee is to report took place and the further procedure necessary for following the program was outlined. The discussion on results obtained from arc-weld joints showed that these vary to quite an extent, and it was the general opinion that the skill of the operator had a very important effect on the results obtained.

In connection with the subject of substitute ties for use in paved streets J. C. Jameson was invited to outline the advances and results obtained from installations using the Dayton mechanical ties. Other manufacturers have been asked to present similar information regarding their products at subsequent meetings of the way committee. The committee decided that other manufacturers of substitute ties are to be asked to supply the committee with a list of users and that the subcommittee on this subject is to prepare and send out a questionnaire to these users for obtaining additional information.

In the discussion of the possible advantages of curved contours for treads of new wheels H. A. Benedict represented the committee on equipment and presented blueprints of a large number of contours taken from worn wheels, which had been prepared by R. H. Dalglish, chief engineer Capital Traction Company, Washington, D. C. H. F. Flowers, chairman of the way subcommittee on this subject, presented some blueprints arranged to show the theoretical advantages of a curved contour as they appealed to him. After an animated discussion of the subject, the committee decided that discussion and theorizing would produce no beneficial results, but the most advantageous course would be to have tests made in actual operation and thus determine results from practical consideration. The committee decided to leave the making of further tests and their following up to the committee on equipment.

The subcommittee on specifications for special trackwork reported progress and expects to have a report ready for discussion at the next meeting.

Under the subject of standardization of frogs and track center distances it was decided to recommend for adoption as "Recommended Practice" the eight distances as proposed in the 1920 way committee report, these to be recommended for use in special trackwork

layouts for all track gages. The subcommittee submitted tables and data in connection with the standardization of branch-off frogs and was requested to prepare same in suitable form for publication as a progress report. Similar tables and plans covering a proposed standard method of design for car clearance curves, using association spirals, were submitted and referred back for further study along suggested lines.

Considerable progress was made in the study of a proposed revision of the recommended design of layouts for switches and mates. Certain of the switches are to be proposed for raising to standard and certain others are to be dropped, if the report of the committee is accepted by the association. Some of the switches are not now used and others have but little use, according to data which the subcommittee has secured.

The subject of standardizing frog angles in crossovers and turnouts was brought up and referred to the subcommittee, with the view of reconciling the slight differences now found in the designs of the several manufacturers. There appears to be no good reason why the same frog angles should not be used by all companies.

In connection with the subject of wood preservation the subcommittee was ordered to complete its proposed questionnaire for issuance as soon as possible. The subcommittee has made great progress in assembly of specifications for preservative oils, analysis and treatment methods. It is hoped to arrange for co-operation with several other national societies which have the same subject in hand.

The committee expects to meet again on April 6.

Camden Company Section Meets

THE monthly meeting of the Camden company section, No. 13, was held on Feb. 17. The speaker of the evening was William A. Searle, secretary-manager of the Chamber of Commerce of Camden, who in an interesting and instructive discourse spoke of the Chamber of Commerce as an institution that takes an interest in everybody's business without selfish motives, but with the main object of serving the city in all capacities. The speaker then considered the transportation situation from the point of view of a person outside of the railway organization, looking in, instead of on the inside, looking out. He showed how the motormen and conductors can by their courtesy to the patrons of the road and by their personal appearance restore the confidence of the public in the railways.

The slogan that Mr. Searle suggested was "A Voice with a Smile." Another suggestion worthy of serious consideration was that of having a "Good Morning Week." He brought out that a way to seek a personal touch with the patrons of the lines is to have a card in the car to inform the public whether it was "Dick" Jones' or "Fatty" Arbuckle's car on which they obtained efficient service and received courteous treatment. In driving home his point he did not offend the rank and file of the men; on the other hand they liked his line of argument and were not afraid to come back in the same spirit.

Martin Schreiber, manager Southern Division Public Service Railway, in closing the meeting, stated how important it is to hear both sides of the transportation question and called attention to the fact that for three days 400,000 passengers had been carried in the Southern Division daily without a single delay.

News of the Electric Railways

FINANCIAL AND CORPORATE • TRAFFIC AND TRANSPORTATION

PERSONAL MENTION

Mayor Denounces Council

Chief Executive of Seattle Objects to Declaration that the Municipal Railway Is Making Money

The City Council of Seattle, Wash., has adopted a resolution, with only one dissenting vote, declaring that the receipts of the Municipal Railway under the present 8½-cent fare are adequate to pay all wages, maintenance and interest charges, and leave more than \$1,000,000 a year to meet the first redemption payment on the \$15,000,000 of bonds issued in payment for the railway system. The resolution added that it was not the intention of the Council to resort to taxation to support the railways, unless it was expressly directed to do so by vote of the people. The measure declared that figures based on thirty-four days' receipts up to Feb. 10 showed the lines would make \$1,060,000 a year above interest charges.

Mayor Hugh M. Caldwell, in discussing the resolution, denounced the City Council for its action in passing such an ordinance. Mayor Caldwell said:

The action of the Council in passing the resolution is directly opposite to the recommendations of the grand jury. Instead of taking or authorizing some action to obtain relief from the present contract this is designed more securely to fasten it upon us. The resolution will doubtless make its appearance in the litigation now pending. The people may find some solace in the fact that the resolution of the Council at least agrees with the grand jury report in so far as it finds that the street railways are being properly managed.

The resolution ignores the report of the city comptroller showing that the city expended from the general tax revenues in 1919 on account of the municipal railway properties \$195,725, and for 1920, \$117,803, and that estimated on the budget for 1921 the city intends to expend from the same source for the same purpose an additional \$182,777, or for the two years and a fraction, from the general tax revenues for the nine months of 1919, for 1920 and 1921, \$496,305, unless perchance the \$182,000 expenditure for 1921 is restrained by the court.

I have not been able to find in the resolution even an optimistic forecast of when the \$83,000 heretofore borrowed from the general fund may find its way back to that fund.

COUNCIL'S FIRST COMMENT

The resolution was the first expression by the Council on the railway situation since the grand jury and Mayor Hugh M. Caldwell reported some weeks ago on their investigations of the city's purchase of the lines. The ordinance was referred to the utilities and finance committees without debate. The text follows:

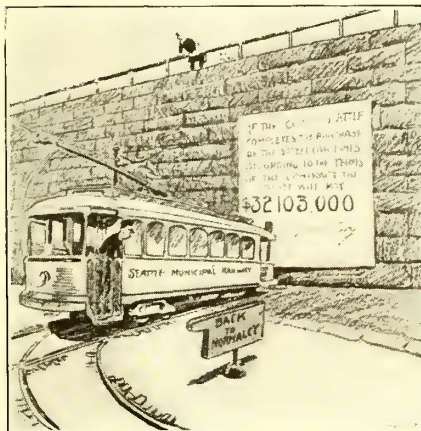
Whereas, the financial condition of the Municipal Street Railway system is being misrepresented to the discredit of said system and of the city; and,

Whereas, in fact the receipts of said Municipal Street Railway system during thirty-four days, up to and including Feb. 10, 1921, and including the last day's operation under the 6½-cent fare, aggregated the sum of \$624,525, a daily average of \$18,368.30, or an indicated annual receipt of \$6,704,642; and,

Whereas, the average of the expenditures

for November and December, 1920, January, 1921, and estimated expenditure for February, 1921, will approximate \$470,000 a month, which said sum includes a monthly allocation of interest on all utility and general bonds issued in connection with the municipal street railway system, or a prospective annual expenditure of \$5,640,000, including all of such interest, indicating that during one year's operation on the present rate of fares, with similar receipts and expenditures, there will be a balance remaining for application toward the payment of principal on outstanding bonds approximating \$1,060,000, or that on March 1, 1922, there will be an approximate balance of \$1,220,000 for such purposes; and, Whereas, the expenses of said Municipal Street Railway system are decreasing; and, Whereas, the experience of the Municipal Street Railway has shown that January and February are two of the poorest months of the year from a revenue standpoint; and,

Whereas, it is apparent from the foregoing that the revenues to be derived from the Municipal Street Railway system will be more than sufficient to meet all amounts properly chargeable thereto. Now, therefore,



MUNICIPAL RAILWAY UP AGAINST STONE WALL, SAYS SEATTLE "TIMES"

Be it resolved, by the City Council of the city of Seattle, that the city railway fund is a solvent fund, and will be more than able to meet all lawful charges against the same.

Be it further resolved, that it is not the intention of the City Council of the city of Seattle to resort to taxation or to any fund dependent thereon for the purpose of maintaining or operating said Municipal Street Railway system nor to pay any utility bonds, or interest thereon, by taxation or from any fund dependent thereon, unless expressly directed so to do by vote of the qualified electors of the city.

Another Wage Cut Proposed

Officials of the Manchester (N. H.) Street Railway have proposed a general 20 per cent reduction in the wages of all employees to become effective on April 1.

Approximately 300 employees will be affected. The present rates for trainmen are 60 cents an hour after one year of service. Officials of the company do not anticipate any immediate reduction in the fare, which is 8 cents.

This rate, the officials claim, is now larger than in most New England cities.

\$4,000,000 Electrification Plan

Municipal Delegates Consider Change in Power on 80 Miles of Grand Trunk Railway

Delegates from all of the municipalities served by the London, Huron & Bruce branch of the Grand Trunk Railway, operating between London and Wingham, Ont., convened at London on Feb. 23 to consider a proposal to electrify the line as a hydro radial similar to the present London & Port Stanley Railway.

DOMINION GOVERNMENT TO BE APPROACHED

They unanimously adopted a resolution requesting the Hydro Electric Power Commission of Ontario to "approach the Dominion Government with a view to acquiring, leasing or securing running rights over" the road "on behalf of the municipalities through which it operates"; and also requesting the power commission to supply the municipalities interested "with a report showing the estimated cost of the line, electrified, and equipped for satisfactory service, together with estimates of the probable future earnings, operating costs, etc., as provided for by the hydro radial act."

It will now be necessary for the individual municipalities to adopt the same resolution before action can be taken by the commission.

The proposal for electrification was first advanced by Vice-Chairman Philip Pocock of the city of London Commission in charge of operation of the London & Port Stanley Railway. The meeting which followed was held under the auspices of the London City Council and Chamber of Commerce. All of the delegates defined their attitude as favorable to the scheme if its feasibility from a financial standpoint is proved by the reports of engineers that are now to be secured.

OPPOSITION TO SCHEME ALLEGED

Louis A. Wood, professor of economics of the faculty of Western University, London, Ont., basing his computations on the percentage increases in costs of the principal materials required, and the fact that electrification of the London & Port Stanley Railway cost \$20,000 a mile six years ago, declared that the cost of the London, Huron & Bruce enterprise would be \$50,000 a mile, or a total of \$4,000,000 for the 80 miles between London and Wingham. His calculations were disputed. The allegation was made that anti-public ownership interests are already further distributing literature among rural councils and farmers' clubs in an effort to kill the scheme.

The movement is regarded in Ontario as having political aspects of a most important character in view of the fact that Premier Drury, as chief of the United Farmers' government now in power in that province, has held up all hydro-radial plans of the Hydro Electric Power Commission pending receipt of the findings of a government royal commission that has been given widest powers to conduct an impartial investigation.

RURAL DISTRICTS FAVOR PLAN

All rural delegates at the London convention declared that their municipalities would vote the necessary funds

of the fact that the whole Grand Trunk system is now being taken over for incorporation in the Canadian National Railways.

Disastrous Fires in Boston and Levis

Fire losses of \$630,000 were sustained recently by the Boston (Mass.) Elevated Railway and the Levis County Railway, Levis, Que., in conflagrations which destroyed carhouses of these companies. The Boston fire caused a loss of \$400,000 to the Boston "L" and the Levis County fire caused a loss of \$230,000 to the Levis County Railway.

Mayor Couzens Pleased

Detroit's Chief Executive Well Satisfied with Municipal Railway Progress—First Lines Now Open

In Mayor Couzens' recent message to the City Council of Detroit, Mich., interesting data were presented relative to the activities of the city of Detroit in constructing the municipal railway. The policy of the administration on railway matters for 1921, according to the Mayor, will be that announced in 1920 and approved April 5, 1920, by 63 per cent of the voters.

RAILWAY'S IMPROVEMENT SHOULD NOT BE HINDERED

The fact is recalled that during the past two years \$65,000,000 has been appropriated for public improvements, including \$15,000,000 for the municipal railway. It is stated that while the present problem is to reduce general expenditures to a minimum by business-like judgment the progress of programs already under way should not be hindered.

On Dec. 30 last the Street Railway Commission had presented by its manager figures showing that the railway plan under which they have been working is financially correct as to construction estimates made to the people at the election April 5, 1920. The 18½ miles of track built during the past nine months have cost, including the overhead, between \$95,000 and \$97,000 a mile. The commission is now in a position, however, whereby it may build the best type of railway construction for \$62,649 per mile.

PROGRESS EXPECTED BY END OF YEAR

Considerable trackage to be built during the coming spring and summer in unpaved streets may be built for as low as \$35,000 a mile. This will bring the average cost of the construction of the 100.75 miles of track proposed in the A and B groups in the ordinance approved last April to a price considerably below the \$70,000 figure estimated last April when the plan was proposed.

The Mayor stated that the construction progress to date shows that the remaining 62 miles of track in the A and B groups can be built by Dec. 1 of this year.

The first section of the Municipal Railway is now in operation.



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THE TWISTED WRECKAGE OF THE BOSTON CARS

if the report proved favorable. The rural districts are also keenly anxious to participate in the benefits of distribution of electricity generated at Niagara Falls, and the hope is held out that the extra load consumed by the railroad would cut farm power costs \$5 to \$20 a horsepower a year.

Several United Farmers' Clubs, which are the source of Premier Drury's power, have assumed the attitude that the project in all its ramifications must be proved to them to be highly desirable before they will approve it, while a few others are as yet undecided in the matter.

The road would have to be acquired from the Dominion Government because

Details of the rolling stock destroyed in the fires were published in the *ELECTRIC RAILWAY JOURNAL* for Feb. 26, pages 415 and 429. The fires were particularly disastrous, the damage which they did completely destroying the plants as is indicated in the accompanying illustrations.

The equipment destroyed in the fire at Levis included fifteen cars, four sweepers and two plows, representing the entire rolling stock of the company with the exception of six cars. The equipment which was destroyed at Boston included twenty-three articulated cars, eight semi-convertible cars, four trailers and four miscellaneous cars on plows.



TWO PICTURES SHOWING DEVASTATION BY FIRE AT LEVIS

Lower Wages and Fares Planned

Trustees of Eastern Massachusetts Street Railway, Operating 730 Miles, Plan to Rewrite Union Contract

The trustees of the Eastern Massachusetts Street Railway, Boston, Mass., have notified their employees who are members of the Amalgamated Association that they do not intend to renew the existing contract as to wages and working conditions. This contract expires on May 1. The trustees sent a formal letter to the secretary of the joint conference board of the Amalgamated, copies being furnished to all the local papers.

THE trustees call attention to the fact that the present wage scale was established as a result of arbitration last September, giving the men a 20 per cent increase based upon the then estimated increase in the cost of living. The trustees now contend that this cost of living has decreased more than this percentage, that wages in many industries have been decreased in accordance with living costs and that the public has a right to expect the wages of the railway employees to be no exception.

The reduction in wages is justified, in the opinion of the trustees, by the fact that the United States Labor Bureau of Statistics and other authorities figure that the cost of living has declined more than 20 per cent since May 1, 1920.

BACK TO OLD WAGE

This reduction will make the basic wage what it was prior to the award of the arbitration board of Sept. 11 last, which award was retroactive to May 1. An outline of this award was given in the *ELECTRIC RAILWAY JOURNAL*.

The present scale paid is 56 cents an hour for the first three months' service, 58 cents an hour for the next nine months, and 62 cents an hour thereafter. Prior to the adoption of this scale the rates were respectively 46, 48 and 51 cents an hour. The last increase was approximately 20 per cent, and with the bonus of 5 cents an hour for one-man cars increased wages \$1,400,000 a year.

This is the first step in New England toward a reduction in electric railway wages, and it is said that a return to the 5-cent fare is the ultimate object of the trustees. The trustees also plan to reduce fares in many places simultaneously with the reduction in wages.

UNION PLANS COUNTER PROPOSITION

The presidents of the carmen's unions have declared that the men will not willingly submit to the cut in wages. The union plans to take up the matter in special meetings and offer a counter proposition and endeavor to secure its acceptance by the company. Undoubtedly the controversy will be carried to an arbitration board if an amicable settlement cannot otherwise be secured.

In their letter the trustees said:

The existing agreement between this company and the Amalgamated Association and the several divisions thereof runs up to and including May 1, 1921. The public trustees hereby notify you that the com-

pany does not desire to renew said agreement and that effective May 2, 1921, it cancels and terminates each and every section of said agreement.

The public trustees have taken this action because experience has proved that many conditions of the existing agreement have been detrimental to the best interests of the car riders and make it extremely difficult to operate this street railway efficiently and for the benefit of the public.

The company will take up with your association at any time the subject of a new agreement much simpler in form than the present agreement.

Last September an arbitration award increased wages of employees of this company 20 per cent, effective from May 1, 1920, to May 1, 1921. This increase was based upon increased cost of living up to May 1, 1920.

According to the United States Labor Bureau of Statistics and other authorities the cost of living has declined more than 20 per cent since May 1, 1920.

Wages in practically every industry have been and are being reduced in accordance with the decrease in the cost of living and the public naturally has the right to expect that wages of street railway employees shall be no exception.

If street railway wages remain at high war levels while the wages of every one else are being reduced substantially lower car fares will be impossible.

Therefore, we advise you that on and after May 2, 1921, the basic rates of wages that prevailed prior to the last increase, which became effective May 1, 1920, will be restored; the differential for one-man car operators will remain at 5 cents.

Fares will be reduced in every district on the Bay State System on the day when this change in wages takes effect.

The contemplated reductions will affect not only the men employed in the car service but also the men in other capacities, such as power house men, linemen, laborers and other classes whose pay now ranges from 62 to 92 cents an hour. They would also be returned to the same basis as before the Ogburn arbitration board's award. Though all these classes are not treated as members of the union their wages are maintained in proportion thereto.

Service-at-Cost Grant Passed in Findlay

By a vote of six to one a service-at-cost railway franchise has been granted to the Toledo, Bowling Green & Southern Traction Company by the City Council of Findlay. Under the terms of the new agreement the initial fare on the lines in Findlay is to be 8 cents, an increase of 3 cents over the present fare. A stabilizing fund of \$20,000 is set up to regulate fares.

A commission of three members will control service on behalf of the city. The commissioner is to be the service director of the city.

The company will receive an annual return of 7 per cent upon the property valuation. The company has ten days in which to accept or reject the new ordinance.

Councilman J. W. McCormick dissented on the passage of the ordinance.

He has threatened to call a referendum on it. He said opposition had been growing because the plan released the company from paving between tracks.

Mayor T. M. Mitchell signed the ordinance and sent it to the company on Feb. 17. It has since been accepted by the company.

Senator Has His Inning

Mr. Johnson Appears Before Committee at Albany in Opposition to Utility Bills

Supporters of the public utility legislation fostered by Governor Miller of New York outnumbered by far the opponents of the relief measures at the public hearing at Albany on March 2. Mayor John F. Hylan, Comptroller Charles L. Craig and President F. H. La Guardia of the New York Board of Aldermen were on hand to oppose the Governor's bill. United States Senator Hiram W. Johnson of California, retained by the Hylan Administration to fight the Governor's transit program, easily was the star orator of the opposition. Spokesmen for several up-State cities appeared, a majority going on record as opposing the bill.

Former City Comptroller William A. Prendergast bore the brunt of Senator Johnson's attack. In answer to the charge that Governor Miller's bill endangered the principles of home rule, Mr. Prendergast showed that on one occasion Mayor Hylan himself had appeared in opposition to a bill to end "Death Avenue" in New York and caused the power to settle the matter to be taken from the Board of Estimate.

Aligned with Mr. Prendergast were former Comptroller Herman A. Metz, former State Tax Commissioner Martin G. Saxe, Joseph Levenson and Mrs. Francis H. Kelly, all from New York.

There were fewer than a dozen speakers for the opposition. Its principal spokesmen, besides Senator Johnson, were Comptroller Craig, Aldermanic President La Guardia, Corporation Counsel John P. O'Brien of New York, and Mayor George R. Lunn of Schenectady.

Senator Johnson declared that the Governor's bill violated both the State and the Federal Constitution in that it proposed to confiscate the 5-cent fare, which was "a property right of which the people of the city cannot be deprived, except with the consent of the city."

Senator Johnson said that the remedy of the city's transit evils was to give it a fuller measure of home rule, a broader grant of power to manage its own affairs, including the transit situation.

On this point he said:

This bill makes a mockery of home rule and of self-determination. Who has the ultimate right under our institutions to govern? You may say that the city of New York may govern itself ill. That is no answer. Under our system—in our democracy—every community has the right to govern itself as it sees fit—govern itself well, we pray, but govern itself ill if it desires.

Mayor Hylan filed a brief setting forth his views. Comptroller Craig declared that the city of New York had rights which antedated and rights the State had bestowed upon it, and which for this reason could not be taken away by the State. Among them, he said, was the right to say on what terms its public utilities should be operated. President La Guardia of the Board of Aldermen denounced the bill as a measure "the dominant note and minor motive" of which was an increase in fares.

Prior to the hearing, Governor Miller addressed a delegation from New York City, composed of several hundred men and women representing civic societies, trade and taxpayers' organizations. He did not attend the hearing.

The hearing was had before the Senate Public Service and Assembly Judiciary Committees, which have custody of

on the ordinance and according to the provisions of the city charter, it automatically goes on the ballot for the April 4 election.

Responsibility for Connecticut Wreck Not Yet Fixed

No finding has as yet been reached in the matter of fixing the blame of the trolley accident which occurred near Shelton, Conn., on Feb. 22. An inquest was held Feb. 24 by the coroner. There were present at this hearing E. I. Rudd, chief engineer of the Utilities Commission, with two assistant engineers; Manager Porter and Superintendent Kibling of the Connecticut Company; Motorman Sherman and Conductor G. Mills of the northbound car, a claims investigator and many passengers who escaped injury. The



RUINS OF CAR IN COLLISION AT BRIDGEPORT

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the Transit bill. At the beginning of the hearing two hours were allotted to each side to make its arguments.

Purchase Ordinance Passed at Detroit

The ordinance providing for the purchase of eight lines of the Detroit United Railway built under the day-to-day agreement was passed by the City Council on Feb. 24. It will go before the voters at the election on April 4. Approximately 25 miles of trackage are involved in the proposed purchase.

Construction work on the Harper Avenue line was stopped by the Council before the road was ready to operate by rescinding the agreement under which the line was being built. It is not included in the lines named in the purchase ordinance.

Provision for the payment for the day-to-day lines, if purchased, will be made from the \$15,000,000 bond issue voted last year.

The service-at-cost ordinance passed out of the Council's hands with the expiration of the thirty days consideration period. No action was taken

coroner's verdict is not expected for several days. The evidence so far brought out would seem to indicate that the inflammable contents of a package being carried by a passenger of one of the cars really was responsible for the high toll of deaths, now numbering ten. The accompanying illustration shows how completely the superstructure of one of the cars was destroyed by fire following the collision.

Municipal Ownership Election Upheld

The Supreme Court of the United States on Feb. 28 declared legal the election held last April at which the expenditure of \$15,000,000 was voted by residents of the city of Detroit, Mich., for the construction by the city of an electric railway. The case was carried to the Supreme Court by the Detroit United Railway after Judge Tuttle in the federal court at Detroit had ruled that no federal question was involved. Judge Tuttle had been asked to enjoin the city from constructing the railway as provided in the plan sponsored by Mayor Couzens.

News Notes

B. J. Arnold Refuses to Quit.—In a letter written to Mayor Thompson of Chicago on Feb. 21, Bion J. Arnold refused to obey the Mayor's demand that he "cease to pretend to act" as the chairman of the Board of Supervising Engineers. The Mayor had stated that the board was without authority to act on transportation matters because the 1907 franchises of the companies had been cancelled. Mr. Arnold said he would continue to perform his duties until he had been legally relieved.

City Official Sentenced.—Charles L. Craig, Comptroller of the City of New York, was recently sentenced to sixty days in the Essex County Jail in Newark, N. J., by Judge Mayer in the United States District Court. Mr. Craig was immediately taken into custody but has been paroled pending an appeal. The charge of contempt of court grew out of a communication between the defendant and Public Service Commissioner Nixon in which Mr. Craig is said to have asserted that federal justice prohibited investigation by the city into the records of the Brooklyn Rapid Transit lines' receiverships.

Commission Measure Passed Over Veto.—The veto by Governor Edwards of New Jersey of the bill creating a new three-man public utility commission has been overridden by the Senate. As soon as the House passes the bill over the veto it will be a law, and it will then be the duty of the Governor to nominate the commission provided for. Under the bill, the power of removal of the board is taken from the Governor, and it was because of this feature that Governor Edwards vetoed the measure. The members of the former commission were removed by the Governor. They carried the case against them into the courts and the Governor was sustained in dismissing them.

Chicago Councilmen to Study M. O.—Members of the local transportation committee of the City Council of Chicago have arranged to make a three weeks' tour of investigation through western cities, starting March 4. Money for the trip was drawn from the traction fund which has been accumulated from payments made to the city during the past thirteen years by the Chicago Surface Lines. The committee will make a study of municipal ownership and operation of street railways, parking regulations, traffic rules, including those governing one-way streets, and the skip-stop system. The Aldermen will visit Kansas City, Denver, Salt Lake City, Los Angeles, San Francisco, Portland, Seattle, Vancouver and St. Paul.

Financial and Corporate

Mr. Seaman Loses

Supreme Court Rules Against Him on One Count in His St. Louis Receivership Suit

The Supreme Court of the United States has overruled the petition of John W. Seaman, represented by Attorney Ephraim Caplan of St. Louis, for a writ of certiorari to review the decision of the United States Circuit Court of Appeals, which recognized the receivership suit filed by Samuel W. Adler against the United Railways, St. Louis, Mo., to the exclusion of Mr. Seaman's earlier suit for a receivership.

The motion for a writ of certiorari was filed in the Supreme Court on Dec. 17. It was the second of two steps which Attorney Caplan took in appealing from the Court of Appeals to the Supreme Court. The other and earlier step was an appeal in regular form. This appeal is still pending. It is not known when the Supreme Court will pass on it.

In the Seaman receivership petition the United Railways was charged with waste of its assets and it was sought to hold individual directors responsible. While this suit was pending Mr. Adler, in April, 1919, filed a receivership petition alleging merely that the company was insolvent. The company promptly admitted its insolvency and Judge Dyer granted a receivership decree and appointed Rolla Wells receiver.

Judge Dyer later announced that the appointment of the receiver was made under the Seaman petition. Before anything could be done to meet the requirements of the Seaman petition, Mr. Adler appealed from this decision and the Circuit Court of Appeals upheld him. This took the case away from Mr. Seaman and removed the requirement for an investigation of the company's affairs before the receivership or for an accounting on the part of the directors. No move for any such investigation has been deemed necessary under the present receiver.

In the appeal petition, which is still pending, the Supreme Court is asked to overturn this action of the Court of Appeals and to reinstate the Seaman petition as the one under which the receivership is decreed. If this should be done Mr. Seaman's counsel would proceed with the movement for an investigation and an accounting.

Scaling Down of Capitalization Suggested

T. Russell Robinson, manager of the Keene (N. H.) Electric Railway, has sent out to bondholders and stockholders of the company a proposition for the reduction of the financial obligations of the company by about 50 per

cent and for obtaining \$15,000 under a prior lien, to be used to purchase new equipment believed to be essential to enable the road to continue in operation. As a part of this plan the City Councils of Keene have been asked to make a similar reduction in a claim of about \$4,800 against the railway company.

It is proposed that the payment of \$80,000 of first mortgage 5 per cent bonds due on Oct. 1, 1920, be made by issuing the holders proportionally new first mortgage 7 per cent bonds of a par value of \$40,000, to mature in twenty years, subject to a prior lien of \$15,000 car trust notes maturing in equal monthly payments over sixty months. If the bondholders consent to accept the new bonds aggregating in value 50 per cent of their present holdings, it is then proposed to reduce the 6 per cent preferred stock of the company from \$70,000 to \$35,000 and the common stock from \$75,000 to \$35,000 and if necessary to issue 7 per cent bonds to a certain amount to aid in re-equipping the road.

If the plan of rehabilitation proposed can not be carried out, the manager appears to be of the opinion that the operation of the road cannot continue for long, and in that case, the scrap value of the plant, with its buildings and real estate, might be considerably under \$50,000.

The road comprises in the main 10 miles of single track with turnouts, nine cars, two snow plows, carhouse, station and machinery and amusement park equipment at Swanzev.

Massachusetts Commission Will Investigate Abandoned Lines

The Massachusetts Department of Public Utilities has been ordered by the State Legislature to investigate and report on or before April 1, 1921, on the necessity and feasibility of restoration of service on abandoned street railway lines, and also to furnish a comparison of costs of transportation by street cars and auto buses. The order requires investigation of the following specific points:

1. What lines of street railway, whether in operation now or not, are necessary to promote the public welfare and convenience in the localities served?
2. Is it necessary or advisable to provide by legislation or otherwise for the restoration of service on any discontinued lines?
3. Is it necessary or advisable to provide by legislation or otherwise for the continuance of service on street railways now in operation at a popular unit fare, with the additional cost to be borne by the public, and, if so, how should the cost be apportioned?
4. Is it advisable to provide by legislation for the Commonwealth to own and operate lines deemed necessary for the public welfare and convenience?

The department plans to hold a public hearing at an early date.

Three Charters Sought

Receiver of Shore Line Seeks to Expedite Retention of Branches in Operation

Division of the Shore Line Electric Railway of Connecticut into three parts in order better to dispose of the property and to enable it to continue operations is provided in a bill on which there was a hearing in Hartford on Feb. 24 before the committee on railroads of the General Assembly. Robert W. Perkins, the receiver, asks for three charters, each charter to apply to a section of the road.

Edward M. Day, counsel for Mr. Perkins, said that the line from New Haven to Saybrook to Chester had not been operated lately and a section of trackage had been sold to Louis Levinson, New York City; that the line in Stonington and Groton was now being operated, and that the section from Norwich to Westerly was in partial operation though its discontinuance had been authorized by the court.

Mr. Day said the receiver could not sell the entire system, nor sell sections of it and give the purchasers the right to operate, because the charter covered the whole system. The passage of the bills before the Legislature would enable syndicates to purchase the property very cheaply and to continue its operation.

ORIGINAL PURCHASER IN DEFAULT

Mr. Perkins stressed the point that it was impossible to reorganize and operate the system as a whole. The rails from Chester to New Haven, purchased by Mr. Levinson, were to have been taken up by Dec. 31, but Mr. Levinson had not done so. Mr. Perkins said that he would like to see Mr. Levinson restore the section to operation.

Marion W. Davis, East Lyme, said that he was anxious that trolley service continue for that town. The 6-mile line to Crescent Beach was used a great deal by summer residents.

Charles L. Whittlesey, New London, speaking on the advantage of separating the Niantic-Crescent Beach line from the New London-Flanders section, said that 85 per cent of the traffic was now on the Flanders line while the remainder was for the branch line which, he said, was run at a loss last summer.

POSSIBILITY OF JUNKING ROAD

Mr. Davis said that the fare to New London was at present 40 cents and that he could not see why such a rate should not pay on a run of 11 miles. Mr. Whittlesey's answer was that the Niantic section was not paying and that if some disposition could not be made of it between now and next summer it would be ripped up and sold for junk.

James A. Bathgate, a factory owner of East Lyme, believed that the complete line should be retained for the development of the community. Selectman Charles Cone, East Lyme, said, that people would be content to go without service when traffic was insufficient to defray the cost of operation.

Service Restoration Ordered

**Public Service Commission Directs
Syracuse & Suburban to Reopen
Line—Autos Refused Rights**

The Syracuse & Suburban Railway, which suspended operations on Jan. 1, 1921, owing to the alleged impossibility of continuing operations at a profit, has been ordered to restore service between the town of Manlius and the city of Syracuse on March 7. Public Service Commissioner John A. Barhite granted the order for the restoration of service on the complaint of members of the Town Board of Dewitt.

The board maintained that the railway had illegally suspended operations in not gaining the permission of the Public Service Commission as required by law, in which it was upheld by the commissioner. Attorney Paul Shipman Andrews, who was said to be the representative of bus lines interests, endeavored to impress upon the judge that the railway could give no assurance of continual and satisfactory service, owing to its financial condition.

Judge Barhite cited the statement of the company to the effect that it continued to recognize the jurisdiction of the commission and would therefore attempt to reorganize by the stipulated date if weather conditions and equipment would permit. The commissioner stated that if it was then evident that the company could not continue to operate satisfactorily complaints could be brought against it and the question taken care of at the proper time.

C. Loomis Allen, general manager, stated in regard to the possibility of further trouble in negotiating with employees regarding wages that if it became necessary non-union men would be employed, the Syracuse & Suburban forfeiting the right to operate into the city of Syracuse, farther than the corner of Montgomery and Fayette Streets. The cars were formerly operated over a section of the city lines by special arrangement with the New York State Railways, which employs all union workmen.

Bus line interests were unable to obtain franchises for the operation of automobile buses over the old suburban route, owing to the fact that the town of Dewitt and the village of Manlius opposed any substitution for the street cars until it was proved that electric railway service could not be regained.

California Tax Measure Attacked

A bill similar to the so-called King tax bill, previously passed in the Senate of California, but defeated in the Assembly, has been advanced for reintroduction and consideration in the Senate. This measure proposes to raise the \$14,000,000 deficit in the state's budget for the next two years by increasing the tax rates on gross income of public service corporations 34.98 per cent (railroads, street railways, for example, from 5½ per cent to a fraction over 7 per cent) and by increasing the

taxes on banks, franchises and insurance companies a like amount.

The committees in the Senate and Assembly called upon the public utilities to be represented in an open hearing in order to discuss this taxation measure. These representatives of the public service corporations, by their frank submission of facts and figures, succeeded in defeating the bill at its first introduction.

Public service corporations claim this bill unfair, unwise and unnecessary, as the utilities are already taxed more in proportion to value than other property. Should the King tax bill be approved the Pacific Electric Railway would pay 130 per cent increase over the taxes it paid the state during the period 1915-1916.

The utilities consider the measure unwise since it would compel them to raise their rates if they are to show earnings which will attract capital for expansion. The measure is also considered unnecessary if certain economies are practiced by the state. A reasonable tax in this situation is suggested to be one related directly between the expense of creating and maintaining the state's system of public highways and those who derive the benefits therefrom. For permanent improvements, which it is now sought to pay out of current revenues, it is recommended that bonds be issued.

Since the adjournment of the first session of the Legislature, Governor Stephens has personally and actively stumped the state in favor of the King tax bill, endeavoring to obtain support of this measure when it is brought up for reconsideration at the second session of the Legislature, convening on Feb. 24.

Only \$36,253 Available for Dividends in Louisville—Appraisal Proposed

Stockholders of the Louisville (Ky.) Railway and the Louisville & Interurban Railroad re-elected directors and officers at the annual meeting on Feb. 16. J. P. Barnes, president, told stockholders that J. G. White & Company, New York, had been engaged to make a detailed inventory and valuation of the company's urban property to set at rest criticism that the company is overcapitalized.

The balance available for dividends on stock at the end of 1920, Mr. Barnes stated, was \$36,253, as compared with \$157,504 in 1919 and \$424,108 in 1918. The operations during 1919 were affected by the strike of employees, he pointed out.

Mr. Barnes declared the policies of the directors and officers were shaped toward the carrying out of the following obligations:

1. To render adequate service to the public of Louisville.
2. To maintain an adequate living wage scale for our employees.
3. To pay a reasonable rate of return on the amount invested in the property used in the service of the public.

Holding Company Eliminated

**\$15,000,000 of Stock Wiped Out—Local
Control for the Buffalo Company
Under Mitten Management**

The board of directors of the International Railway, Buffalo, N. Y., on Feb. 25 closed a contract by which the Mitten Management, Inc., will supervise the management and rehabilitate the International Railway property. The undertaking is very similar to the arrangement under which so much has been accomplished during the past ten years in Philadelphia.

DIRECTORATE UNCHANGED

The board of directors of International Railway remains unchanged. T. E. Mitten is chairman of the executive committee, H. G. Tulley will continue as president of International. Thomas Penney is the vice-president and general counsel, Edgar G. Dickson, vice-president in charge of operation, and C. A. Chavel, auditor. Carl A. Weber is appointed secretary and treasurer.

A careful and complete survey and analysis of the International system and service will be at once undertaken by Mitten Management experts under direction of President Tulley, in an endeavor to give to Buffalo the best possible railway service. To that end the suggestions and kindly co-operation of the car riders and the community is being solicited.

The International Traction Company is now a thing of the past. Its \$5,000,000 of preferred stock and its \$10,000,000 of common stock, issued at the time of the 1901 consolidation, have been completely wiped out. The stockholders of the underlying company, the International Railway, have been obliged to foreclose and take their property back.

Under the plan of reorganization now made effective, the International Railway stockholders were required to pay in new money. Nearly \$4,000,000 was needed to put the International Railway in a position to pay its obligation and to relay worn out tracks so that the city paving of streets might be no longer delayed.

More than one-half of the entire issue of International Railway stock is now owned in the city of Buffalo and vicinity.

FORECLOSURE PREVENTED

In the annual report the company's operating revenue for the year ending Dec. 31, 1920, is given as \$11,294,117. Operation and taxes amounted to \$9,616,489, leaving an operating income of \$1,587,628, which when added to the non-operating income, makes a gross income of \$1,657,207. This gross income is entirely wiped out by interest, rentals and amortization of discount.

In setting forth the protective committee's reorganization plan in detail it is remarked that the initial responsibility confronting the committee was to prevent a receivership or foreclosure of the International Railway refunding

and improvement 5 per cent mortgage in case of default. The committee made loans to the company amounting to \$2,070,189. This debt was afterward cancelled by the committee. This act represented in effect a contribution of that amount to the company.

Permission to Sell Stock Refused by Cleveland Council

Permission to sell approximately \$1,600,000 of Liberty Bonds held by the company is to be asked of the Cleveland City Council by the Cleveland Railway according to announcement made by officials of the railway and Fielder Sanders, City Street Railway Commissioner. The bonds are to be sold at current market prices and the loss on them is to be amortized out of the earnings.

If the City Council permits the sale of the Liberty Bonds, the money will be used to take up short time notes of the railway now held by Cleveland banks. These total almost \$1,370,000. The proceeds of this loan have already been used in making extensions and improvements and all but \$74,000 of the company's Liberty Bonds are pledged as collateral for the notes.

The company's request to sell its Liberty Bonds comes as a result of the City Council's refusal to permit the company to sell \$3,000,000 par value of new stock at 80 and to amortize the discount from par out of earnings.

Opposition to the proposed sale of stock at 80 was led by the Cleveland Press. The paper insisted that the company should raise new capital through the sale of bonds. The company officials, however, are opposed to this and say that no extensions, improvements or betterments can now be made.

Receivers at Spartanburg

George B. Tripp and J. B. Lee have been appointed temporary receivers of the South Carolina Light, Power & Railways Company, owners of the Gaston Shoals power development in Cherokee County, the gas plant, the street railway line and electric lighting system of the city of Spartanburg, S. C. The appointment was made by Judge H. H. Watkins of the United States Court of the Western District of South Carolina. Mr. Tripp is vice-president and general manager of the company and Mr. Lee is president of the Bank of Commerce, Spartanburg.

The action of the court was in the case of the General Electric company, New York, complainant, against the South Carolina Light Power & Railways Company, defendant, in which it is alleged the company is indebted to the complainant in the sum of \$13,358 the payment of which sum has been duly demanded but remains unpaid.

The court's order naming the receivers concludes by directing the parties to the case to appear on March 17 to show cause why the receivership should not be continued during the pendency of the suit.

\$1,333,811 Reduction in P. R. T. Income

Deficit of Philadelphia Rapid Transit Under Five-Cent Fare Not All Made Up by Increased Fare

The serious financial condition that confronted the Philadelphia Rapid Transit Company when it actually increased fares in the latter part of 1920 is reflected in the report of the company for the year 1920. While merchandising methods did influence riders to some extent to pay double 5-cent fares instead of using transfers the gain in revenues was far from being sufficient to meet the rapidly accruing deficit.

ON NOV. 1 the basic fare was increased from 5 cents to 7 cents with no change in free transfer privileges or 3-cent exchange regulations. Reduced rate tickets were also established and sold four-for-a-quarter. During the last two months of the year revenues increased \$1,304,002 even though traffic fell off 5,223,601 passengers over the corresponding period of the previous year.

The report reviews the endeavor of the company to add to its revenues from the time the Stotesbury-Mitten management took hold in 1910 to date. Among other things, attention is called to the average gain in per capita riding of 74 per cent in Philadelphia as against 27 per cent in Detroit, Cleveland, Buffalo and Chicago in that period. This gain is held to be attributable to short distance riding. By means of consistent educational methods, this has grown in 1920 to 180,000,000 passengers a year and represents more than \$7,000,000 of added revenue.

As to industrial relations, the report points out that two changes in wages were made during the year, the last of which increased the maximum rate to

72½ cents an hour. This rate, however, although retroactive to June 1, 1920, did not actually become payable until Nov. 1, when the higher fares became effective. The back pay with interest was disbursed to all employees on Feb. 1. The basic rates for wages are the average of those paid to trainmen in Chicago, Detroit, Cleveland and Buffalo. Reduced wages in any of these four cities will automatically serve to reduce the wages paid in Philadelphia.

In speaking of the operation of the Frankford "L" for the city, the report states that this is made difficult because of the misinformation originally fed to the public as to the probable earning power of the extension. Even now, the Market Street subway-elevated, built in days of much lower prices and in operation since 1907, is just beginning to earn 6 per cent upon its actual cost. In the meantime real estate operators have benefited by this improvement and the assessed values on property in West Philadelphia have increased \$113,000,000. It is said that the increased valuation of properties directly affected by the Market Street rapid transit line is as much as 98 per cent.

INCOME STATEMENT OF THE PHILADELPHIA RAPID TRANSIT COMPANY

Year ended Dec. 31	1920	1919	Per Cent Change
Gross passenger revenue.....	\$37,989,623	\$34,739,589	+9.36
Other operating revenue.....	817,731	618,882	+32.13
Total railway operating revenue.....	\$38,807,354	\$35,358,471	+9.75
Way and structures and equipment—Maintenance and renewals.....	\$5,595,600	\$4,707,012	+18.85
Power—maintenance and operation.....	3,728,027	3,450,486	+8.04
Conducting transportation.....	13,748,926	11,387,653	+20.78
General.....	3,521,359	2,697,091	+30.50
Total railway operating expenses.....	\$26,593,912	\$22,242,242	+19.55
Net operating revenue.....	12,213,442	13,116,229	-6.87
Taxes, including paving tax.....	\$2,601,253	\$2,345,750	+10.87
Operating income.....	\$9,612,189	\$10,770,479	-10.74
Non-operating income.....	\$592,986	\$681,049	-12.90
Gross income.....	10,205,175	11,451,528	-10.88
Interest.....	\$976,463	\$927,926	+5.24
Rentals.....	8,726,647	8,687,725	+0.45
Sinking fund—city contract.....	120,000	120,000	0.00
Total deductions.....	\$9,823,110	\$9,735,651	+0.90
Net corporate income.....	\$382,065	\$1,715,877	-77.90

STATISTICAL INFORMATION OF THE PHILADELPHIA RAPID TRANSIT COMPANY

	1920	1919	Per Cent Change
Average total miles operated.....	671.77	671.42	+0.05
Revenue car-miles to car-hours—speed in M.P.H.....	9.33	9.07	+2.86
Revenue passengers at 5 cents.....	(c)	671,652,444
Revenue passengers at 7 cents.....	(c)
Total revenue passengers.....	704,557,608	671,652,444	+4.90
Revenue exchange passengers at 3 cents ().....	55,233,232	51,675,791	+6.88
Free transfer passengers (b).....	154,079,623	149,427,164	+3.11
Total passengers handled.....	913,870,463	872,755,399	+4.71
Gross passenger revenue.....	\$37,989,623	\$34,739,589	+9.37
Average fare—per revenue passenger.....	5.40	5.18	+4.25
Average fare—per total passengers handled.....	4.15	3.98	+4.25
Revenue per mile of track.....	\$56,550	\$51,800	+9.17
Operating ratio—per cent.....	68.5	63.0	+5.50
Taxes, per cent of gross revenue.....	6.70	6.52	+0.18

(a) 536 points in 1919 and 537 in 1920. (b) 333 points in 1919 and 336 in 1920. (c) Not available.

With the increased cost of operation it is not now thought that the Frankford "L" can earn much, if anything, in excess of its operating cost. For that reason the company urges that new estimates be made as to the earning power of these lines operated independently and as an integral part of the Philadelphia Rapid Transit System.

The city is also urged to ask the Public Service Commission to participate in the conferences leading up to the execution of the Frankford "L" operating contract. This, if done, should insure against a repetition of the refusal to approve, which was the fate of the proposed 1918 city contract, and will offer opportunity for the consideration of such fare adjustments as may be necessary to assure the payment of the forementioned 5 per cent return.

The accompanying income statement for the past two years indicates that operating expenses have more than kept pace with any growth in gross revenue. In 1920, notwithstanding the increased fare during the last two months, the gain was far from being sufficient to wipe out the early losses of the year.

Statistical information compiled from various sources indicates that the losses in traffic due to the 7-cent fare have by no means been such as to wipe out entirely the normal increase for the year.

Capital Traction Favors Consolidation

George E. Hamilton, president of the Capital Traction Company, Washington, D. C., has set forth in a letter to a member of the district committee of the House the attitude of the company toward the proposed merger with the Washington Railway & Electric Company. Among the elements that Mr. Hamilton says should be taken into account in any such change are cited the following:

1. A merger should include the property of both companies, the lines within and without the District of Columbia, and the Potomac Electric Power Company.
2. The basis of merger should be the relative earning or exchange value of the companies.
3. A provision for service at cost, in order that the rate of fare might be automatically adjusted to conditions.
4. A management that would command the confidence of the public and the security holders, and in this management, as well as in the negotiations for merger, the public should have representation.
5. A plan of merger so worked out and approved by the Commissioners should be submitted to the stockholders of the respective companies for their consideration, and if approved by them reported back to the Commissioners.

Mr. Hamilton sums up the matter:

Congress may have the power, but I doubt its right, through the imposition of excessive taxes and otherwise, to hamper and destroy these properties. It has the power to penalize through taxation, but I do not believe that Congress, in its wisdom, desires to so use its power. My belief is that Congress desires by legislation, helpful to the companies and protective to the public, to encourage and provide for a right conclusion and consolidation through a fair agreement of merger, and in this effort and direction it will have our cordial co-operation. My associates in the company and I are in favor of such a consummation, and if Congress would enact a law permitting a merger, I believe the wished-for consolidation could be brought about voluntarily in the near future by the parties in interest.

Financial News Notes

Interurban Decides to Quit.—The stockholders of the Morgantown (W. Va.) Interurban Railway have decided to discontinue business and surrender the company's charter.

Commission Appraising Kalamazoo Lines.—The Public Utilities Commission of Michigan is engaged in appraising the lines of the Michigan Railway in connection with the fare case now pending before the commission.

Cars Seized to Secure Payment of Fares.—Two cars of the New Paltz, Highland & Poughkeepsie Traction Company, New Paltz, N. Y., have been seized by the sheriff and advertised for sale for non-payment of taxes amounting to \$1,500.

Interurban Declares Initial Dividend.—The Rochester & Syracuse Railway, Syracuse, N. Y., has declared an initial quarterly dividend of 1 per cent on the \$2,500,000 non-cumulative preferred stock, payable on March 15 to stockholders of record March 1, 1921.

Tulsa Lines Plan to Consolidate.—The Tulsa (Okla.) Street Railway and the Oklahoma Union Railway, which also owns and operates at Tulsa, are negotiating for consolidation of the two systems. Details of the plan have not been announced, but it is known that it is planned that the Tulsa Street Railway will take over the city lines of the Oklahoma Union Railway, leaving the latter company to operate its interurban properties without the hindrance of the local lines.

Note Issue Quickly Subscribed.—Stone & Webster, Boston, Mass., announce that their Texas property, the Galveston-Houston Electric Company, has sold \$250,000 of five-year 8 per cent notes. This issue was offered to employees and patrons of the company at par, and within one week was entirely taken up by this class of investors. The purpose of the issue is to complete needed trackage in the downtown district of Houston for the purpose of relieving traffic congestion.

Southern Pacific Plans Abandonment.—The Southern Pacific Company has informed the Railroad Commission that it proposes to abandon a material part of the electric service operating over the terminal property at Oakland, Cal. It is proposed to abandon the electric lines and service between the property along Webster Street to and across the drawbridge and over San Antonio estuary; to discontinue the operation of the so-called Fourteenth Street trains now operating between Alameda Mole and the Fourteenth Street terminal property, together with the operation of street cars which now run between Alameda and the depot.

Kansas City Must Act Quickly.—In a speech made recently in Kansas City, Mo., Francis M. Wilson, one of the receivers of the Kansas City (Mo.) Railways, said that only fourteen of the thirty-five lines of that company are paying the cost of operation. The outlying lines are making no money. He regards the forced sale of the properties to be inevitable, unless the revenues of the company are built up. If the receivers are unable to make any progress the court will be quick to realize that nothing more can be done. Under forced sale only the first mortgage bondholders would be likely to receive anything. The second mortgage bondholders and the stockholders would be wiped out. All claims now piled up and pending against the company, including those of the city, would also be unpaid. He asked his audience to contemplate such proceeding in its effect upon the city of Kansas.

Preferred Stock Sold to Employees and Customers.—The San Antonio (Tex.) Public Service Company has just placed on the market an issue of \$2,000,000 of cumulative preferred stock yielding an annual return of 8 per cent. This stock is being sold to employees and customers and the selling is being done principally by the employees. At the end of the first month approximately \$80,000 of this stock was sold. In order to give the customers the best information possible and the kind of service to which they are entitled an investment department has been organized. This department is in charge of S. J. Ballinger, commercial manager of the company. Just enough salesmen are kept in the investment department to take care of inquiries and assure the proper treatment. No effort is made to secure experienced stock salesmen. Company employees who are familiar with the business and know how to be polite and courteous to the public are used as special salesmen.

City to Appraise Utica Lines.—The city of Utica, N. Y., has retained three auditors of Milo R. Maltbie, public utility consultant, to appraise the Utica holdings of the New York State Railways in the fight of the municipality against an increased fare. The company placed a petition before the Common Council of the city some time ago asking for a fare increase on the grounds that the present fare was inadequate and was forcing them to operate at a loss. Following the city's refusal to consider the proposition the company curtailed service to a considerable extent. The corporation counsel of Utica procured an order from the Public Service Commission instructing the company to restore normal service. The company then filed a demand for a 10-cent fare with the commission. To date the railway and city officials have been patiently awaiting settlement by the commission. The engagement of the accounting experts by the city is the first local development in the tangle since negotiations began.

Traffic and Transportation

Hearing on Jitney Regulation

Demand in Connecticut that Bus Be Restrained and Made Subject to Same Obligations as Trolley

The unregulated jitney bus has encountered an added opponent in Connecticut through the alliance of the Federation of Labor of that State with the railway interests in support of a bill now before the Legislature. At a hearing before the judiciary committee at Hartford on Feb. 15 Ira M. Ornburn, representing the federation, said that the bill was introduced at the request of the labor organization. He believed the motor vehicles had entered into unfair competition with the electric railways and argued that they should be subject to the same operating tax as the trolleys. He believed further that the buses should not be allowed to operate on streets where there were car lines.

J. T. L. Hubbard, Bridgeport, attorney for the Park City Bus Association, surprised the committee by stating that he himself favored regulation of the jitneys by the Public Utilities Commission. He picked flaws in the measure under consideration with such apparent success that the bill will undoubtedly be materially amended before it is reported by the committee. Mr. Hubbard stated that he had framed a bill also before the Legislature which provided for regulation of motor vehicles with certain restrictions and conditions. The bill before the committee Mr. Hubbard characterized as impracticable and impossible of operation.

L. S. Storrs, president of the Connecticut Company, was asked whether, if jitney competition were entirely stopped, the railway could pay its taxes to the State. He replied that he could not tell, but stated that if the jitneys were eliminated the direct revenue to the trolley would be from \$750,000 to \$1,000,000 more than at present.

C. S. Brody, Bridgeport, representing another association of jitney men, said the supporters of the bill evidently thought it more important to keep the Connecticut Company alive than to serve the public. The bill, he said, would eliminate jitneys and the people of Bridgeport didn't want them eliminated. He stated that the bus owners were willing to accept reasonable regulation and a reasonable tax.

Major J. Moss Ives, receiver of the Danbury & Bethel Street Railway, said the road was running behind \$40,000 and \$50,000 a year in operating expenses due to unfair jitney competition. The past two years the road has not been able to pay the \$12,000 taxes due the state, which could have been paid had jitney competition been eliminated by the 1919 Legislature.

Shreveport Fare Case Appealed

Appeal has been taken to the Supreme Court of Louisiana by the Shreveport (La.) Traction Company of the case before Judge Hand where the

Director Stops Increase Cincinnati Traction Company Prevented by City from Putting Nine-Cent Fare Into Effect

A temporary injunction issued by Judge Stanley Matthews, of the Common Pleas Court, on Feb. 24 prevented the Cincinnati (Ohio) Traction Company from increasing fares on its lines another half a cent to 9 cents on March 1. In the meantime fares will continue at 8½ cents.

Walter Draper, vice-president of the company, announced the increase on Feb. 16. W. C. Culkins, director of street railways, promptly announced that proceedings would be instituted to enjoin the fare increase. The company contends that a deficit exists. No definite date has been set for the hearing.

CITY CAN REFUTE CHARGES

The basis of the city's suit to enjoin the 9-cent fare was its claim that no deficit exists, according to the city's way of figuring. To this Alfred Cassett, attorney for the company, answered that the company resented the implication that it was not acting in good faith when it presented figures showing such a deficit to exist.

In rendering the injunction Judge Matthews said the company can ask for a dissolution of the temporary order whenever it is ready to offer evidence against the charges of the city, or the city solicitor can, whenever he desires, ask for a final hearing on his petition for a permanent injunction.

Indications are that in the meantime William C. Culkins will attempt to push negotiations for a reorganization of the company. He believes this will do away permanently with conditions that have necessitated fare increases in the past.

In his petition City Solicitor Zielonka charges:

That the traction company has from time to time increased fares upon the "pretended claim that gross receipts have been insufficient."

That if car fares were allowed to go to 9 cents the volume of passenger traffic would be reduced.

That increased rates would not produce larger gross receipts.

That there is no deficiency existing in December and January gross receipts.

In addition to the traction company the Cincinnati Street Railway and the Ohio Traction Company were named defendants in the suit. Mr. Zielonka asserted it was necessary to name all the companies because of this interrelation to one another.

Officials of the Cincinnati Traction Company insist a deficit of about \$125,000 existed in receipts for December and January and that the total deficit in operating expenses is more than \$665,000.

Commissioner Culkins contends \$350,000 of the alleged deficiency is represented in a suit filed by the city to recover that amount from the Ohio Traction Company, the Cincinnati Car Company and the traction company. About \$333,000 more is represented in over-expenditures by the company last year, Mr. Culkins says. The traction company exceeded its budget by that amount, he says and he refused to approve the expenditures.

Accidents Diminish with Experience

An interesting exposition of the influence of experience of trainmen on the accident record is afforded by the comparative statistics of the Kansas City (Mo.) Railways Company for December, 1920, and December, 1919. It will be recalled that in 1919 the company was going through the ordeal of building up a completely new transportation organization, made necessary by the strike in December, 1918. At the end of 1919 a large part of the force was still inexperienced, while by the end of 1920 the turn-over had been greatly reduced and the average amount of experience had substantially increased. The result is clearly reflected in the following accident figures for December:

	Vehicle Accidents	Railway Car Collisions	All Classes of Accidents	"Blind" Accidents
1919...	631	87	1,050	61
1920...	468	31	806	38
Decrease	163	56	244	23

Des Moines Losing on an Eight-Cent Fare

In spite of an 8-cent fare the Des Moines (Iowa) City Railway did not make as much money during January, 1921, as it did during January, 1920, when the 5-cent fare was in effect. According to the report of Scott Goodrell, the city supervisor, to the City Council, the deficit in January this year was \$13,923, whereas in January, 1920, there was a nominal profit of \$2,767. Costs incident to a 40 per cent increase in service which was made effective at the time the 8-cent fare was authorized are blamed for the loss as compared to the figures of a year ago. Mr. Goodrell is authority for the statement that the twenty buses now operating in Des Moines are responsible for a cut in income of the railway amounting to \$21,000 a month. He estimates that each of the buses is carrying 700 passengers a day.

The application of the city to nullify the 8-cent fare is referred to on page 469.

court held that the referendum election of May 18 was illegal in which the voters authorized the company to increase fares from 5 cents to 6 cents until Dec. 31, 1923. The court ruled in substance that technical requirements of the law had not been met in submitting the measure and that the granting of a new fare charge or increase in rates was the granting of a new franchise. In the event that a retrial is denied an appeal will be taken to the Supreme Court.

The case against the company was brought by H. P. Long, Jr., a member of the Shreveport bar. He questioned the validity of both the ordinance and the election.

The request for an advance in fares had its origin in an appeal by the employees of the railway last spring for an increase in wages. The company was then paying motormen and conductors 33 to 43 cents an hour. The books of the company were opened to the men by the railway to prove that under the fare then in effect it would be impossible to grant the request for an advance in pay. The men then suggested to H. B. Hearn, president and general manager of the company, that he go before the people and ask their permission to increase fares. This Mr. Hearn did with the full approval and backing of his employees.

Nothing Constructive Done at New Orleans

At the instance of Paul H. Maloney, Commissioner of Public Utilities of the city of New Orleans, La., an audit made by A. C. Moffat, secretary of the Sewerage and Water Board of New Orleans, discloses that the service-at-cost plan advocated by Eastern bankers, assuming the valuation of the New Orleans Railway & Light Company to be \$40,000,000, would necessitate a fare of 6.8 cents, just to pay operating expenses and a 6 per cent guarantee to investors.

The audit of the books of the company covered the period from Oct. 22, 1920, to Dec. 31, 1920. The 8-cent fare went into effect on Oct. 22, 1920.

The valuation of \$40,000,000 was used merely as an illustration and is not accepted by the city. The representatives of the company fixed the valuation at \$55,000,000 and the Ballard report fixed the value at \$35,000,000.

Mr. Moffat has been asked to make an audit through January.

The critical situation in which the New Orleans Railway & Light Company now finds itself impelled Judge Rufus Foster of the Federal District Court to call a conference on Feb. 25 in the federal court building. The purpose of the meeting was not disclosed in advance, but it was surmised that the probable rejection of the service-at-cost plan, advocated by the receiver and representatives of the security holders makes it imperative that some temporary settlement of the railway situation should be reached at once. The 8-cent fare ordinance will expire on April 1.

Routing and Other Changes Contemplated at Toledo

Drastic changes in routing and schedules of the lines of the Community Traction Company, Toledo, Ohio, the abandonment of some lines, and the regulation of jitney buses may be put into effect by the board of control. Before making any general recommendations, however, Wilfred E. Cann, Street Railway Commissioner, will probably await the report for the first month's operation under the Milner service-at-cost ordinance.

Checkers at work collecting data on the operation of the jitneys discovered one day recently that 9,414 persons rode that day on buses. The check was made on the Oak, Cherry, Dorr and a few other lines at busy points. Figuring the fares of these bus patrons at 6 cents the jitneys deprived the railway of at least \$584 of revenue. On the basis of this and subsequent counts it has been estimated that the jitneys are depriving the railway of approximately \$425,500 a year.

Commissioner Cann and Law Director James Martin have been working on an ordinance to regulate the motor traffic. The railway officials are not opposed to jitney competition on a fair basis and are not opposed to the operation of jitney lines which do not compete with the railway. They are hopeful that a form of auxiliary service may be worked out for the buses.

The names of the engineering and auditing assistants are given on page 471 of this issue.

Louisville Badgers Its Railway

It will probably be at least eight or ten weeks before the appeal of the city of Louisville, Ky., from the Federal injunction permitting the Louisville Railway to collect a 7-cent fare, can be decided by the Federal Court of Appeals at Cincinnati. In the meantime the City Council and some of the smaller publicity seeking attorneys are doing their utmost to harass the company. An instance of this is supplied in the suit filed against the company for recovery of 4 cents.

Another stab at the railway is an ordinance which seeks to remove all bars from jitney bus operations. The present ordinance provides a license of \$50 for the first bus, and \$10 for each additional. The new ordinance would put a flat rate of \$10 license on the first and all other buses. It would also substitute a surety bond in place of the present real estate bond of \$5,000.

City Attorney Lawton has been investigating the law to decide whether a mandamus proceeding could not be brought against Federal Judge Evans, at Louisville, to compel the company to issue receipts for all 7-cent fares so as to enable the public to collect overcharges in the event the upper courts hold with the city against the railway.

The City Council has set aside a fund of \$25,000 to be used in defraying legal expenses in making its fight on the railway. Part of this will be used

in investigating the assessable value of the company's property, with the plan of forcing payment of back taxes.

The county is also planning to double or triple the assessment of the company's property for taxation purposes.

Court Doesn't Propose Railway Shall Share Assets with Public

Federal Judge Robert E. Lewis on Feb. 16 granted the city of Denver, Col., permission to intervene in the Denver Tramway's petition for increased fares. The court entered an order making the city a party to the proceedings evolving from the petition filed by Ernest Stenger, receiver for the company, asking for a 10-cent fare. The city has ten days within which to file its answer to the petition. The case has been set for final hearing in the United States District Court, District of Colorado, on March 1.

Following an application by the city of Denver in which it sought to have the proceedings instituted by the receiver dismissed on the ground that the federal court has no jurisdiction in the matter, Judge Lewis ruled that the court has jurisdiction over the settlement and emphatically declared that relief of some kind was imperative to the company and that it would be granted, stating in part:

This court has neither the power nor the disposition to continue a condition which will result in taking away from the stockholders of the tramway its property and distributing it among the public.

There is no community in the country that wants public service furnished it on a charity basis. In fact even were this community willing to take service from the tramway upon such a basis, it would be discontinued for lack of assets.

If the contentions of the petitioner regarding the condition of the tramway is correct, and there is nothing before this court to show that such contentions are not correct, then relief of some sort is imperative, and this court proposes to see that it gets all the reasonable relief possible to give it.

Seven-Cent Fare Asked in Dallas

The Dallas (Texas) Railway, having been halted in its negotiations with the city of Dallas for a revision of its present franchise so as to embody the real service-at-cost features under which the company would be guaranteed a net return of 7 per cent on its invested capital, has renewed its request for a 7-cent fare. A statement is now being prepared by the company's officials for presentation to the City Commission setting forth in detail the financial conditions of the company and showing the urgent need for an increased fare.

In discussing the application, Richard Meriwether, vice-president and general manager, said that if the company were forced to go into the federal court and seek an increased fare on the ground that the present fare is confiscatory, an 8-cent fare will be asked.

J. F. Strickland, president of the company, and other officials who have been taking part in the new franchise negotiations have agreed to let these negotiations drop for the present, if the city will act on the increased fare question.

Bondholders Go on Strike

The Public Service Commission of Indiana will rule on the Lafayette Service Company's plea for increased fare within the next few weeks. Fred B. Johnson, commissioner, after listening to the evidence presented by the company at a public hearing in Lafayette recently, has taken the matter back to the commission for consideration.

The company presented financial statements for the seven months' period from May 1, 1920, to Nov. 30, 1920, in which it was shown several of its lines were operated at a loss. The company is asking to have the city fare increased from 5 cents to 6½ cents with a 10-cent fare for a single ride if tickets are not bought. A 20 per cent increase in suburban fares also is asked.

Charles Niezer of Fort Wayne, attorney for the company, told Commissioner Johnson that unless the company received relief it would have to suspend operations. The tracks are in bad condition, and the bondholders, R. W. Levering, manager, testified, will allow the line to be junked before they will invest any more money under existing conditions. Jitneys, operating between the city and Purdue University, it is said, take more than \$100 a day away from the railway.

Transportation News Notes

Seven-Cent Fare Refused.—The Public Service Commission of Pennsylvania has denied the application of the Warren Street Railway to increase its fare from 6 cents to 7 cents. The commission authorized the 6-cent fare in December, 1918.

Ten Cents Cash in Everett.—By a recent order of the Public Service Commission fares on the railway lines of the Everett Railway & Power Company, Everett, Wash., have been advanced from 5 cents to 6½ cents on a token basis, with a 10-cent cash fare. The order became effective on Feb. 3.

Fare Rise in Mansfield.—The Richland Public Service Company operating in Mansfield, Ohio, has been granted a fare rise from 7 cents cash to 8 cents cash, with seven tickets for 50 cents. Recently the company petitioned the City Council for a 10-cent cash fare and six tickets for 50 cents. The old rate was 7 cents cash with four tickets for 25 cents.

Fare Rise Approved.—The Alabama Public Service Commission in a recent order has given permission to the Alabama Power Company to charge 7 cents on its lines in and between Attala, Alabama City and Gadsden despite the opposition of the City Councils of Gadsden

and Attala. It is provided that tickets will be sold at the rate of 16 for \$1. The company will be required to issue transfers on any one line to any other line.

Eight Cents in Findlay.—The Toledo, Bowling Green & Southern Traction Company, Findlay, Ohio, has accepted the service-at-cost grant passed by the Council of Findlay. March 17 has been set as the date for the new 8-cent fares to go into effect. At present the company is permitted to charge only a 5-cent fare. The new rate of fare will prevail for the first three months under the franchise.

Cultivation of Riders Planned.—The Tacoma Railway & Power Company, Tacoma, Wash., has announced that although six months' operation under the present 10-cent cash fare, with 8-cent tickets, shows the company is not making enough above operating expenses to pay interest on its indebtedness the company does not contemplate asking for an increase in fares. An effort will be made by the company to get more persons to ride in cars.

Five-Cent Fare Ordered Restored.—Judge J. C. Hutchison, sitting in the United States court for the Southern District of Texas, at Houston, has handed down an opinion refusing to enjoin the city of Galveston from enforcing an ordinance directing the Galveston Electric Company to discontinue collection of 6 cents from railway patrons and to collect the old fare of 5 cents. The ruling will be reviewed at length in an early issue of the ELECTRIC RAILWAY JOURNAL.

Increased Rate in Guelph.—The Private Bills Committee of the Ontario Legislature has approved an increase in fares on the Guelph Street Railway from 5 to 7 cents, with four tickets for 25 cents. The city solicitor of Guelph informed the committee that the railway, which is operated by the municipality, had a deficit of \$13,000 last year and \$11,000 in 1919, and that the Hydro Electric Power Commission of Ontario had advised increased fares as the only means of overcoming the deficits.

Des Moines Case Heard by Full Court.—The application of the city of Des Moines, Iowa, for a writ super-sedeas to nullify the 8-cent fare ordered allowed by Judge Martin J. Wade a few weeks ago, will be heard on March 4 at Kansas City by a full bench of the United States Circuit Court of Appeals. The hearing was originally set for Feb. 25, but was postponed. Efforts of the attorneys for the city will be to return to the 6-cent fare pending a hearing upon the merits of the 8-cent needs.

Schenectady Fares Increased.—The Public Service Commission for the Second District has authorized the Schenectady Railway to discontinue the sale of commutation, round trip and other special rate tickets on its different divisions. The order provides that the company may charge \$5 for a fifty-four-trip book covering the ride between Schenectady and Albany and with the

city fares of 7 cents in each city the rate is \$12.56 against the present rate of \$10.40. The company in its application asked for \$13.50. The new rate on the Troy line, where there was a charge of \$10.40, will be \$13.50.

Higher Fares Granted in Sherbrooke.—The application of the Sherbrooke Railway & Power Company, Sherbrooke, Que., for increased fares has been granted by the Public Utilities Commission of Quebec, Canada. The new rates went into effect on Feb. 1, and are as follows: Adults, cash fare, 10 cents, or six tickets for 50 cents; children, cash fare 4 cents, or eight tickets for 25 cents. After midnight, 15 cents cash will be the fare for each passenger. Transfers are provided without extra charge. Under the old schedule the cash fare was 8 cents, or four tickets for 25 cents.

Six Cents in Elmira.—The Public Service Commission has granted permission to the Elmira Water, Light & Railroad Company, Elmira, N. Y., to advance its rates on lines within city limits to 6 cents; Rorick's Glen, Elmira Heights and other points outside the city will be 7 cents; to Horseheads the fare will be 13 cents. The new rates went into effect Jan. 30, 1921. Superintendent Maloney commenting on the commission's decision has said that the company will really be no better off than it was a year ago with the 5-cent fare due to the change in conditions and the falling off in traffic.

Three Cents a Mile in Pontiac.—The Bloomington, Pontiac & Joliet Electric Railway has put into effect a straight 3-cents-a-mile fare on its lines in Pontiac. Last June the Illinois Public Utilities Commission granted the company permission to increase its fares to 3 cents, but another ruling of the commission provided that when tickets were purchased the fare would be 2½ cents a mile, while cash fare paid on the cars would be at the rate of 3 cents a mile. Since the steam roads are charging 3.6 cents a mile the Bloomington, Pontiac & Joliet Electric Railway petitioned the commission for permission to charge 3 cents a mile regardless of ticket sales or cash fares. The new ruling became effective Feb. 1.

Seven Cents Authorized in Clinton.—Under a recent ruling of Judge A. P. Barker, the Clinton (Iowa) Street Railway has been authorized to charge a 7-cent cash fare with four tickets for 25 cents. The company was collecting 6 cents and had petitioned for 8 cents. The fare controversy in Clinton dates back several months when the railway raised its cash fare from 5 to 6 cents to meet the demands of its employees who were seeking an increase in wages. Prior to this the City Council of Clinton had refused the petition of the railway for authority to raise its fare to 7 cents. An appraisal of the railway's property followed and the opinion of Judge Barker permitting the 7-cent fare is based on this appraisal. The new rates in Clinton went into effect on Feb. 20.

Personal Mention

Mr. Seeligsberg, Manager

L. W. Seeligsberg, executive assistant McGraw-Hill Company, has been appointed business manager of the *ELECTRIC RAILWAY JOURNAL*. In this position he succeeds J. E. Mason, who has been appointed business manager of *Power*, one of the McGraw-Hill publications.

Mr. Seeligsberg, who is a graduate mechanical engineer of Stevens Institute of Technology, and is an associate member of the American Society of Mechanical Engineers, is well acquainted with the electric railway field, having been business manager of this paper in 1918 and 1919. He resigned this office during 1919 to become manager of the circulation department of the McGraw-Hill Company, and later was appointed executive assistant to the president and vice-president of the company.

Mr. Seeligsberg has had an extended experience in the business affairs of technical papers, having been at one time business manager of *Engineering Record* and also for a number of years manager of the service department of the McGraw-Hill Company. He comes to his present position therefore well qualified to carry out its duties.

F. R. Devlin Elected President

Frank R. Devlin has recently been elected president of the State of California Railroad Commission, the position held in past years by the late John M. Eshleman, Max Thelen, now of the Interstate Commerce Commission and E. O. Edgerton. The post has been vacant since Mr. Edgerton's term expired.

Mr. Devlin was appointed to the Railroad Commission by Governor Johnson, taking office January 3, 1915, and filling the vacancy caused when Mr. Eshleman took office as lieutenant governor.

During Mr. Devlin's six years of service on the Railroad Commission he has presided over some of the most important cases in the history of American rate regulation. He has tended to specialize in power and hydro-electric matters, and his decisions in such matters as the Pacific Gas & Electric rate and finance cases laid down the lines upon which will proceed the future power development of California.

Equality of payment among purchasers of service has been one of his outstanding economic policies. In 1918, with Commissioner Edgerton, he sat in the now famous Pacific Gas & Electric surcharge case, out of which developed the decision that corporations must abrogate contracts giving special rates to certain consumers. Many of these contracts were of long standing. Mr. Devlin took the position that to favor

one consumer is merely to penalize all the rest, and that contracts of this sort were of the same illegal standing as rebating.

Mr. Devlin is 53 years of age. He resides in Berkeley, Cal.

Mr. Blinn Heads C. E. R. A.

Operating Head of Akron's Railways Foresees Successful Year for Central Association

Alfred C. Blinn, vice-president and general manager of the Northern Ohio Traction & Light Company, Akron, Ohio, was elected president of the Central Electric Railway Association at the annual meeting in Toledo on Feb. 25.

In accepting the office of president of the association, Mr. Blinn expressed



A. C. BLINN

pleasure at the opportunity to serve that body. He said it had been his misfortune during the past year, on account of the franchise negotiations and other difficult matters with which his company had been confronted, to be unable to attend the meetings of the association. In listening to the discussion which had taken place earlier in the meeting in regard to the future of the association, Mr. Blinn attributed the apparent lack of interest and enthusiasm in some of the meetings during the last two years to the fact that most of the railway men have been so absorbed in their own company affairs that they have let association matters go.

Looking ahead, Mr. Blinn expressed the hope that an enthusiastic spirit in the association work would prevail this year, for he questioned whether there ever was a time when railway men needed more than now the sympathetic understanding and the personal association which its conferences bring. He

declared that while many companies have had their backs to the wall, so to speak, the situation is going to be worked out somehow because the industry had been proved to be essential. "We are selling a service that the public has got to have, and some time the people are going to realize that they must protect the utility companies as well as control them," he said. He hoped to see the electric railways nationalized, in the sense that they would become so stable a business that their securities would be absorbed by the investing public as are government bonds.

Mr. Blinn is a native of Ohio, having been born at Piqua in 1876. His connection with the public utility field began in the electrical department of the Sandusky (Ohio) Gas & Electric Company, of which department he later became superintendent and then general manager of the entire company. In 1904 he went to Macon, Ga., as general manager of the gas light and water company there, remaining for about five years. He was then made vice-president and general manager of the Public Utilities Company, Evansville, Ind. In 1917, following the purchase of the Northern Ohio Traction & Light Company by the Hodenpyl-Hardy interests, Mr. Blinn went to Akron to take the position which he still holds.

New Commissioner in Oklahoma

E. R. Hughes was recently elected a member of the Oklahoma State Corporation Commission. Mr. Hughes was for several years United States Commissioner at Elk City, Okla. He has for years been a close student of conditions in Oklahoma and has shown himself to be a man of courage and sound judgment. As a member of the corporation commission, Mr. Hughes will substantially dignify the administration of that institution, and can be depended upon so to conduct himself that credit will be reflected upon the state.

At a meeting of the members of the commission held recently, Campbell Russell was unanimously elected chairman of the State Corporation Commission, to succeed Art Walker, chairman for the past year and a half.

Motorman Made Labor Head

George B. Arnold, motorman on the Chicago & Oak Park Elevated Railroad, Chicago, was recently appointed chief of the Department of Labor of Illinois by Governor Small. Mr. Arnold has been in the service of the elevated railroads since 1897, and during this long period has endeared himself to his fellow employees as well as to the operating officials by his genial manner and strict attention to duty. For several years he has been prominent in the affairs of the local division of the Amalgamated Association. He has also been a member of the Chicago Board of Education for the past four years. Mr. Arnold was born in Troy, N. Y., in 1866.

Veterans to Operate Toledo Railways

A. Swartz Appointed Vice-President and Superintendent of Transportation—J. M. Enright in Charge of Roadway and Equipment

Two able traction men, Albert Swartz and Joseph M. Enright of the old Toledo Railways & Light Company, will have largely in their hands the operation of the Toledo street railway system under the Milner service-at-cost plan which became effective Feb. 1, 1921. Both are thoroughly acquainted with the problems of city transportation and especially familiar with existing conditions in Toledo. In the Community Traction Company, formed under the new plan to operate the traction properties of the Toledo Railways & Light Company, Mr. Swartz holds the offices of vice-president and superintendent of transportation and Mr. Enright is superintendent of roadway and equipment.

ALBERT SWARTZ is a Toledo boy who started his engineering career in railways back in 1895 when, as a graduate of Toledo Central High School, he took a position as chainman with the Ann Arbor Railroad at Toledo. His engineering work took him from that road to the old Lake Shore & Michigan Southern Railroad, now a part of the New York Central system. A few years later, as construction and maintenance engineer for the Baltimore & Ohio Railroad, he had a large part

Mr. Swartz belongs to the American Railway Association, the American Electric Railway Association, the American Association of Engineers and the Central Electric Railway Association.

Joseph M. Enright has grown up with the Toledo street railway system. Thirty-three years ago he accepted a position as the driver of a horse-car on the old Erie-Nebraska line and made his start in the business of transporting persons from one part of Toledo to another. Within the first three years of his service on the horse-car lines he became a conductor and then graduated to the motorman's place on one of the first electric cars in Toledo in 1889. He served as barn foreman at the old car barn on Erie Street near Ash Street for two years. Promotion to division superintendent at the powerhouse and barns at Monroe and Water Streets followed and he served in this capacity for eleven years.

In 1902 he went out to Perrysburg for a three-year stay as superintendent of the Maumee, Perrysburg & Waterville line, which is now a part of the Maumee Valley lines. Then he came back to Toledo and became superintendent of transportation of the Toledo Railways & Light Company, and when promoted to manager of railways served in that capacity for ten years. At the end of this term Mr. Enright had been thirty-three years in railway service in this community.

During the formation of the Community Traction Company, to put into operation the Milner service-at-cost plan, Mr. Enright was made temporary president of the company. He is now superintendent of roadways and equipment and has direct charge of maintenance, betterments, the administration of repair shops, carhouses and all equipment of the company.

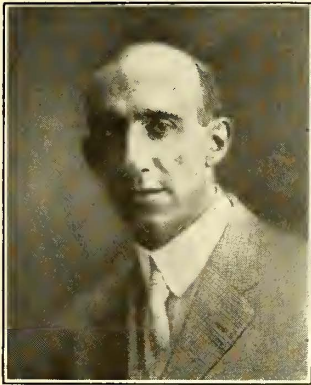
Outside of electric railways he is most interested in motor boats. He is a member of the Maumee River Yacht Club and the Toledo Yacht Club. He is a member of the Central Electric Railway Association and also of the Toledo chapter of the Doherty Fraternity. Mr. Enright is 53 years old.

E. L. Graumlich has been named engineering assistant to Commissioner Wilfred E. Cann of the Toledo street railway system. He has for two years been in charge of schedules and service in the office of street railway

commissioner at Cleveland. Mr. Graumlich was graduated as a civil engineer from the Case School of Applied Science, Cleveland, Ohio, and served through the late war as a second lieutenant in the Coast Artillery Corps. He has had two years' experience with the firm of Barclay, Parsons & Klapp on traffic studies and rapid transit work in Cleveland and vicinity and has had also five years' experience as a traction engineer.

H. Bailey-Stokes has been appointed accounting assistant to Mr. Cann. He is an engineer, a veteran of two wars, and also an expert in street railway accounting. He has been associated for two years with the accounting firm of Price, Waterhouse & Company, Detroit, Mich.

He was born in San Francisco and educated in England as a mining engineer. His first work was in the diamond mines of South Africa. At the outbreak of the Boer War he enlisted and served throughout the war. He returned to San Francisco and engaged in the practice of accounting after the



A. SWARTZ



J. M. ENRIGHT

in the planning of the Washington Terminal. From Washington he went to New York as chief draftsman for the Erie Railroad and later was appointed division engineer at Huntington, Ind.

After these seventeen years of railroad experience Mr. Swartz came to Toledo as an engineer in charge of the maintenance of way of the Toledo Railways & Light Company, and he has been connected directly with Doherty properties in that city ever since. In the fall of 1913 he was made vice-president of the Toledo & Western Railroad and served in that capacity with the interurban line until Jan. 1, 1917, when he came back to the city system as assistant manager of railways and in charge of maintenance and transportation.

Mr. Swartz is 43 years old now and is entering upon his new duties with the same system as vice-president and superintendent of transportation of the Community Traction Company. He has direct charge of operation of the cars and handling all employees in the operating end of the business.

close of the war. He also served in the World War until wounded, then spending the following two years on accounting work for the British government ship repair works in the city of Glasgow, Scotland.

Mr. Goodwin Joins Staff of Electrical Society

William L. Goodwin, well known in the electrical field for his ability to organize and secure co-operation from the various interests engaged in manufacturing and merchandising, has joined the staff of the Society for Electrical Development in the capacity of assistant to the president. Mr. Goodwin and James M. Wakeman, general manager of the society, will direct the activities of the society co-ordinately, under the authority of the president, executive committee and board of directors. Mr. Goodwin was one of the principal speakers at the December meeting of the Central Electric Railway Association in Indianapolis.

Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE MANUFACTURER,

SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

Heavy Rolling Stock Loss in Recent Fires

Eighty-Four Cars Burned, with Total
Damage of \$1,000,000 in First Two
Months of Year

With the advent of winter and the additional fire hazards to electric railways entailed thereby an increase in the number of disastrous rolling stock fires may usually be expected. The present year to date apparently presents no exception to this rule. Since the first of the year five fires which caused a loss of \$50,000 or more each have been reported in these columns. The entire damage in these instances amounted to almost one million dollars while the number of cars destroyed totaled eighty-four. There were, of course, other fires of lesser importance reported, and undoubtedly some which did not come to the attention of the *ELECTRIC RAILWAY JOURNAL*. For general purposes, however, these five are sufficient to illustrate the tremendous economic loss which fires cause traction companies and the great need which exists for taking precautionary measures.

All five of the blazes noted occurred in carhouses, and in the three most damaging fires the flames are said to have originated in cars standing in the carhouse. In the other two instances the cause of the fire is unknown. In this connection attention might be called to the ordinance existing in many municipalities that cars must be heated before leaving the carhouse. The frequent practice of leaving cars unattended before they leave the carhouse while the pole is on the trolley wire and the heater and lighting switches are turned on has undoubtedly given many fires their start.

MOST FIRES START IN CARS

In fact, an examination of the fire records of a company which investigates and reports on public utility fires shows that the majority of fires on electric railway properties originate in the rolling stock itself, and with few exceptions the underlying causes are found to be mechanical defects which are encompassed for the most part by defective wiring, overheated resistance, short circuit and broken trolley wire.

During the year 1920 there were approximately twenty-six fires noted in these pages. In four instances the amount of the damage is unknown, but the total loss caused by the twenty-two other fires amounted to \$2,225,000. Included in this figure was the value of 313 cars of various types that were entirely destroyed, though it is true that much of the rolling stock burned was old and considerably depreciated

in value. Nevertheless, this total, which represents about 9 per cent of all the cars purchased throughout the country last year, represents not only an appalling monetary loss but also a decided setback to service.

Cotton Waste Prices Somewhat Easier

Slightly lower prices are being quoted on cotton waste than were given a month ago. The lowest range on white cotton is around 9 and 10 cents, while the top is from 12½ to 14 cents. For colored cotton waste 7 and 8 cents is given as a low figure and 10 and 11 cents a pound in 100-lb. lots as a top figure. Spot cotton in New York at this writing is 11.20 cents a pound. Buying in the traction field is quiet and in small amounts. With the light demands from railroads and the automotive industry the market shows little activity and supplies are ample to meet quick deliveries. Easing up in freight movement and a car surplus of about 370,000 freight cars is one reason for the curtailed buying. Mill supply of thread waste is beginning to build up.

No Blanket Action Against Price Guaranteeing

The Federal Trade Commission on Feb. 15 announced that it intends no blanket action against the practice of guaranteeing against price decline, but will consider each complaint upon the facts shown in the specific case. Any blanket order would have had considerable effect on many electrical manufacturers. The announcement says:

"The commission received so many complaints about the practice of manufacturers in guaranteeing commodities in the hands of wholesalers against decline in price that an extensive inquiry was made, resulting in expressions from more than 350 manufacturing and selling concerns, including trade associations whose represented membership must be more than double the number of individual statements. From the scope of the inquiry and the number and variety of replies, the result shown must be taken to be fairly representative of the difference in business opinion on this subject.

"The Federal Trade Commission, therefore, will consider each case of complaint of this character upon the facts shown in the specific case, applying the legal tests thereto. This action involves neither approval nor disapproval of the economic soundness of the arguments advanced before the commission for and against this practice."

Unfavorable Outlook for Early Steel Revival

Demands Necessitated by Wear and
Tear Alone Only Slightly Under
Present Rate of Mill Operation

Steel and iron, two of the fundamental factors in this nation's industry, were discussed before the editorial conference in New York on Feb. 18 by A. I. Findley, editor of *Iron Age*. In his address Mr. Findley said in part:

"What is certain is that the steel trade is today in a depressed state and that those who in November looked for a moderate revival in the spring of 1921 are now setting the date for any marked improvement some months further on in the year. There is a growing belief that present conditions in the United States are due more than we were willing to believe last year to the financial and industrial straits of Europe. As never before leaders in industry and finance in this country see that we are linked up with the rest of the world for better or worse.

STEEL A CRITERION OF BUSINESS

"In view of its basic character developments in the steel trade are important as an index to what is to be expected in 1921. Today there is about two-thirds operation of iron and steel works, with the possibility that with the coming of spring a temporary spurt in demand may bring the percentage up to 75. It has been found in other times of depression that wear and tear alone is good for about a 60 per cent operation in iron and steel.

"The outlook for an early and extensive revival of demand for iron and steel is not favorable. The fall in prices of agricultural products, which already represents a loss of \$4,000,000,000 to the farming community, has reduced very much the demand for agricultural improvements. The railroads, which in average times take from 20 to 25 per cent of the steel output, are buying little. Rails and track accessories have been in best demand in the forms of steel which go to railroads. Until the railroads are freed from the stranglehold of the wasteful labor scheme imposed on them by the government they will not be free buyers of equipment. Today they have many idle cars with no early prospect of full use of their equipment.

"That the country is much underbuilt has been said over and over in the past two years. The automobile building program for 1921 can hardly be more than 40 per cent of that for 1920. The automobile industry has probably not taken more than 5 or 6 per cent of the country's steel output

on the average, but its ramifications into various metal-working and machinery lines are such that it has been a very important sustaining factor. Shipbuilding demand for steel in 1921 is likely to be considerably less than in 1920. Mining, whether of coal, iron or non-ferrous minerals, will be restricted in 1921. So far as iron, copper and other metals are concerned operations of the mines can hardly go beyond 60 or 70 per cent of last year.

"The most favorable indication industrially for the present year is the evidence of a return to economic production methods. It will be a good thing for producers to learn again how to sell their products."

Tie Prices Shaded to Buyer Who Shopped

The course of action of a good-sized Middle Western traction company which was recently in the market for 4,000 railroad ties affords an interesting example of the present tendency of buyers to shop when prices are considered too high. The company in question was quoted a price of \$1.60 for the best grade standard white oak ties, delivered. The management deemed this price too high and sent an agent scouting around for a couple of weeks to look over the market. This man came back with the information that ties were plentiful and railroads were not buying to any extent. Furthermore, as a result of his trip a quotation of \$1.05 was obtained from a commercial tie producer for the same quality white oak ties, delivered. Second-grade white oak ties were offered at a price of 80 cents each. The company bought 4,000 ties at the latter price and they were shipped immediately from stock.

Trolley Poles Reduced in Price

Two Manufacturers Drop Quotations 20 per Cent—Demand Is Light and Deliveries Are Good

Price reductions on seamless-steel trolley poles have been put into effect by at least two manufacturers recently. The reduction in each case was a general cut of 20 per cent, effective Feb. 23 in one instance and Feb. 26 in the other. Two other manufacturers of trolley poles state that their prices remain unchanged. Steel prices are lower, but the cost of labor is said to be the limiting factor there.

The present market is quiet as buying of this product has been light for some time. It is hoped that following this price decrease and with the approach of spring sales will increase.

Stocks of trolley poles that producers are carrying just now are not large, but deliveries are entirely favorable. One or two manufacturers complain of raw material shipments and state that owing to the continued strong demand for tubular steel products the supply of trolley poles has been somewhat curtailed in the past. This condition is more than balanced, however, by the low volume of orders.

Equipment Manufacturers Unite to Finance Sales

Electric Railway Equipment Securities Corporation has just been formed by the J. G. Brill Company, General Electric Company and Westinghouse Electric & Manufacturing Company, with a capital of \$1,000,000. The directors are Samuel M. Curwen, Henry C. Esling, W. H. Huelings, Anson W. Burchard, J. R. Lovejoy, O. D. Young,

Guy E. Tripp, H. H. Westinghouse and H. B. Schute.

The activities of the new corporation will be confined strictly to the financing of the sale of street railway equipment, and it is understood its formation does not signify any connection between the three manufacturing companies represented other than providing the means of early payment for their product.

Track and Roadway

Public Utilities Company, Evansville, Ind.—A petition asking that the street car service in Evansville, Ind., be extended through Howell, a suburb, is being circulated by people living in Howell and will be presented to the Evansville Public Utilities Company, operating the car lines in Evansville. It is proposed that the cars run on Broadway and several other streets in Howell. At the present time the cars only run to Barker Avenue and Broadway where they turn. It is the contention of the patrons that the public would receive better service in the event that the lines were extended. Many persons are required to walk fully a mile to their homes after they leave the cars, it is pointed out. Superintendent Gerringher, of the street railway department of the Public Utilities Company, has promised to repair the street between the car tracks on West Franklin Street at Evansville as soon as the weather will permit. The city board of public works has received complaints that the brick paving, especially at crossings, was in bad condition.

Dallas (Tex.) Railway.—Work has been resumed by the Dallas Railway in laying steel on Masten Street which

NEW YORK METAL MARKET PRICES

	Feb. 3, 1921	Mar. 2, 1921
Copper ingots, cents per lb.	12.75	12.50
Copper wire base, cents per lb.	15.75	15.25
Lead, cents per lb.	4.75	4.00
Nickel, cents per lb.	43.00	41.00
Zinc, cents per lb.	5.50	5.10
Tin, cents per lb.	32.25	29.37
Aluminum, 98 to 99 per cent, cents per lb.	28.60	28.00

OLD METAL PRICES—NEW YORK

	Feb. 3, 1921	Mar. 2, 1921
Heavy copper, cents per lb.	11.00 to 11.25	10.25 to 10.50
Light copper, cents per lb.	8.50 to 8.75	8.00 to 8.25
Heavy brass, cents per lb.	6.00 to 6.50	6.00 to 6.50
Zinc, old scrap, cents per lb.	3.00 to 3.25	3.00 to 3.12
Yellow brass, cents per lb.	4.00 to 4.50	4.00 to 4.25
Lead, heavy, cents per lb.	4.00 to 4.25	3.25 to 3.50
Steel car axles, Chicago, per net ton.	16.50 to 17.00	16.50 to 17.00
Old car wheels, Chicago, per gross ton.	21.00 to 22.00	18.00 to 18.50
Steel rails (short) Chicago, per gross ton.	16.00 to 17.00	15.50 to 16.00
Steel rails (rerolling), Chicago, gross ton.	16.00 to 17.00	15.00 to 15.50
Machine shop turnings, Chicago, net ton.	7.00 to 7.50	6.50 to 7.00

ELECTRIC RAILWAY MATERIAL PRICES

	Feb. 3, 1921	Mar. 2, 1921
Rubber-covered wire base, New York, cents per lb.	18.00	16.50
Weatherproof wire base, New York, cents per lb.	18.00	17.50
Standard Bessemer Steel Rails, per gross ton.	45.00	45.00
Standard open hearth rails, per gross ton.	47.00	47.00
T-rail, high (Shanghai), per gross ton, f.o.b. mill.
Rails, girder (grooved), per gross ton, f.o.b. mill.
Wire nails, Pittsburgh, cents per lb.	3.25	3.10 to 3.25
Railroad spikes, drive, Pittsburgh base, cents per lb.	3.65 to 4.00	3.65
Tie plates (flat type), cents per lb.	2.75	2.75
Tie plates (brace type), cents per lb.	2.75	2.75
Tie rods, Pittsburgh base, cents per lb.	6.00	6.00
Fish plates, cents per lb.	2.75	2.75
Angle bars, cents per lb.	2.75	2.75
Rail bolts and nuts, Pittsburgh base, cents per lb.	5.50	5.50
Steel bars, Pittsburgh, cents per lb.	2.35	2.00 to 2.35
Sheet iron, black (24 gage), Pittsburgh, cents per lb.	4.20	3.85 to 4.20
Sheet iron, galvanized (24 gage), Pittsburgh, cents per lb.	5.25	4.80 to 5.25
Galvanized barbed wire, Pittsburgh, cents per lb.	4.10	3.85 to 4.10

	Feb. 3, 1921	Mar. 2, 1921
Galvanized wire, ordinary, Pittsburgh, cents per lb.	3.95	3.70 to 3.95
Car window glass (single strength), first three brackets, A quality, New York, discount*.	77%	77%
Car window glass (single strength), first three brackets, B quality, New York, discount.	77%	77%
Car window glass (double strength, all sizes, A quality), New York, discount.	79%	79%
Waste, wool, cents per lb.	11 to 17	11 to 17
Waste, cotton (100 lb. bale), cents per lb. White.	10.50 to 14.00	9.00 to 14.00
Colored.	7.50 to 12.00	7.00 to 11.00
Asphalt, hot (150 tons minimum), per ton delivered.	40.00	40.00
Asphalt, cold (150 tons minimum, pkgs. weighed in), per ton.	36.00	36.00
Asphalt, filler, per ton.	36.00	36.00
Cement, New York, per bbl.	4.10	4.10
Linseed oil (raw, 5 bbl. lots), New York, per gal.	.77	.72 to .73
Linseed oil (boiled, 5 bbl. lots), New York, per gal.	.79	.74 to .75
White lead (100 lb. keg), New York, cents per lb.	.13	.13
Turpentine (bbl. lots), New York, per gal.	.70	.57 to .59

* These prices are f.o.b. works, with boxing charges extra.

will connect McKinney Avenue with the business district near Ervay and permit the cars now being operated in North Dallas to save fully one mile in making their cross-town trips. Under the present arrangement these cars are routed down McKinney Avenue to Lamar and then traverse the entire business district. Under the new routing made possible by the Masten Street line these cars can be routed into and across the retail district near Ervay. The work of laying steel on Masten has been held up for some weeks on account of paving and other street work, but this has now advanced to a point where the track work can go forward. The work is expected to be completed in sixty days.

Willapa Electric Company, Raymond, Wash.—Public Service Commission of the State of Washington has ordered the Willapa Electric Company to construct and maintain an extension of its railway tracks in South Bend along and on Water Street extended from the present terminus at the west end of Water Street to the office building and store of the Lewis Mills & Timber Company. The decision of the commission was unanimous.

Tacoma Railway & Power Company, Tacoma Wash.—Since the Tacoma Railway & Power Company plans the expenditure of \$50,000 to \$60,000 during the year in the repair of pavements along its tracks in the city the company has decided to refuse to haul heavy steam railway freight cars on all lines west of Commerce Street.

Brantford (Ont.) Municipal Railway.—The Brantford Municipal Railway expects within the next month to build two miles of track and one mile of overhead work.

Trade Notes

Dwight P. Robinson & Company, Inc., New York City, has recently opened branch offices in Montreal, Canada, in the Dominion Express Building. Alexander C. Barker, vice-president, is in charge of the office.

The Palmer Bee Company, Cameron Avenue and East Grand Boulevard, Detroit, is preparing plans for a four-story factory on Poland Avenue, to cost, including machinery, in excess of \$350,000. The company manufactures elevating and conveying machinery.

The Midvale Steel & Ordnance Company, Philadelphia, Pa., earned net profits of \$12,371,298 in the year 1920, according to the company's quarterly report. This is equivalent to \$6.18 per share, compared with \$10,387,418 net profits or \$5.19 per share in 1919.

William C. Wilson, formerly with Taylor-Wharton Iron & Steel Company and William Wharton, Jr., Company as manager of sales, northeastern territory, has become associated with the Pittsburgh Screw & Bolt Company and will be located at its New York office, 50 East Forty-second Street.

The Clifton Manufacturing Company, Boston, has moved into offices in the new addition recently made to its plant at 63 Brookside Avenue. The portion of the old building made vacant by this change will be used for factory purposes. The company manufactures enamel and galvanized-steel conduits, insulating tapes and compounds and specialized rubber goods.

The Conveyors Corporation of America, Chicago, announces that S. D. Inman has been placed in charge of the engineering and design of its American trolley carrier and monorail conveying equipment for handling coal, ashes, sand, gravel, etc. Mr. Inman has been associated with the company in an engineering capacity for over a year.

The Tubular Woven Fabric Company, Pawtucket, R. I., has removed its New York office from 61 Broadway to 52 Vanderbilt Avenue. This change was made necessary because of the sale of "Duraduct" and "Duracord" having been combined under one sales organization. P. S. Klees has been engaged to take care of the combined sales in that territory.

George J. Blanton, who for the past four years has been connected with the engineering sales department of Chain Belt Company, Milwaukee, has been made New York district manager. Mr. Blanton has figured prominently in the largest installation of traveling water screens yet on record. Before joining the company he was with the General Electric Company for eight years. He is a graduate of the University of Michigan department of mechanical and electrical engineering class of 1909.

The Concrete Mixer Association of the United States, at its annual election of officers, held in Chicago, Jan. 28, elected Clifford F. Messinger of the Chain Belt Company, Milwaukee, president; W. B. Knickerbocker of the Knickerbocker Company, Jackson, Mich., was elected vice-president; A. T. Scannell of the Archer Iron Works, Chicago, Ill., treasurer, and H. E. Smith, president of the T. L. Smith Company, Milwaukee, Wis., chairman of the executive committee.

Peru Invites Exhibits of American Manufacturers at Centennial.—The Peruvian government will this year celebrate the centennial of its independence and has voted a sum equivalent to about \$3,000,000 for this purpose. According to the Consul-General of Peru at New York, it has been arranged to hold an exhibit, probably in Lima, of manufactures of other countries. Concessions have been granted to the Peruvian Centennial Exhibits Company, 42 Broadway, New York City, and A. Ameraldi, Lima, Peru, from whom information as to allocations of space and rental charges can be obtained.

The Toledo Crane Company, Bucyrus, Ohio, successor to the Toledo Bridge & Crane Company, Toledo, manufacturer of "Toledo Cranes," has been chartered under the laws of Ohio. The company

is now constructing and expects to have completed by March 15 a building, 120 ft. x 320 ft., to be used for erecting and assembly purposes; machine shop, 60 ft. x 300 ft.; structural shop, 90 ft. x 300 ft.; pattern shop, 60 ft. x 140 ft., all equipped with modern tools and arranged for continuous production, which will enable it to maintain former standards of quality and service established for "Toledo" cranes. The main office of the company will be at Bucyrus, with sales offices in New York City, Boston, Philadelphia, Pittsburgh, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Kansas City, Seattle, Salt Lake City, San Francisco, Birmingham and Minneapolis. C. F. Michael is president and W. F. Billingsley is vice-president and general manager.

New Advertising Literature

Separators.—The Griscom-Russell Company, 90 West Street, New York City, is distributing a form sheet describing the new Stratton separator for power plants.

Angle Fittings, Water Heaters and Rotometers.—The American District Steam Company, North Tonawanda, N. Y., has issued bulletins Nos. 151, 152 and 153, describing its "Adasco Rotometer," "Adasco" water heaters and "Adasco" angle fittings, respectively.

Catalog.—The Ohio Brass Company, Mansfield, Ohio, has just issued catalog No. 18 for 1921, a 638-page illustrated volume covering the company's line of high-tension insulators, trolley line materials, rail bonds and tools, third rail insulators and equipment specialties.

Insulation Testing Sets.—James G. Biddle, Philadelphia, is distributing a folder on "Megger Testing Sets" for measuring the insulation resistance of wires, cables, generators, motors, transformers, switchboards, insulators, etc.

Engineering.—"Achievement" is the title of a folder being distributed by the J. G. White Engineering Corporation, New York City, dealing with the power and hydro-electric developments, transmission systems and other engineering projects of the company in this and in foreign countries.

Flooring and Steps.—Irving Iron Works Company, Long Island City, N. Y., has issued a seventy-two-page booklet-catalog with illustrations and descriptions of typical installations of "Irving Subway" ventilating flooring and "Irving Safstep" non-slipping steps.

Boiler Room Manual.—H. S. B. W. Cochrane Corporation, manufacturer of boiler room equipment, has published a second revised edition of its 414-page manual entitled "Finding and Stopping Waste in Modern Boiler Rooms."

Switches for Battery Charging.—The Automatic Electrical Devices Company, 122 West Third Street, Cincinnati, has placed on the market a heavy duty self-closing underload switch (type M), with ratings of 50 amp. to 200 amp., designed for charging large storage-battery mining locomotives.