

# Electric Railway Journal

*Consolidation of Street Railway Journal and Electric Railway Review*

HARRY L. BROWN, Western Editor    HENRY W. BLAKE and HAROLD V. BOZELL, Editors    HENRY H. NORRIS, Managing Editor  
DONALD F. HINE, Editorial Representative    N. A. BOWERS, Pacific Coast Editor    H. S. KNOWLTON, New England Editor    C. W. SQUIER, Associate Editor    C. W. STOCKS, Associate Editor  
A. D. KNOX, Editorial Representative    G. J. MACMURRAY, News Editor    GEORGE BUSHFIELD, Editorial Representative

Volume 57

New York, Saturday, May 14, 1921

Number 20

## Send Large Delegations to Atlantic City in October

IN VIEW of all the circumstances, the selection of Atlantic City as the place for the fall convention appears to be a wise one. Undoubtedly there are many railway men in the East who would have been pleased if the choice had fallen upon a city in the Mid-West, like Chicago, Indianapolis or Cleveland. Much has been published about railway practice in these cities, and if one of them had been chosen, an easy opportunity would have been afforded for Eastern railway men to see directly some of the construction and practice about which they have heard and read. Nevertheless, Atlantic City possesses the great advantage that the hotels are fairly near together and there are not the distractions from attendance at the meetings incident to a convention in a large city and due largely to the opportunities for excursions to points of interest. After all, the formal discussions in the meeting halls and informal ones outside are the main purposes of the convention. If these purposes are best secured at a meeting place like Atlantic City, then the choice of that place is justified.

The exhibits will necessarily be missed, especially at Atlantic City, but the decision to omit them applies only to this year. If conditions are more favorable next year, the exhibits will be appreciated all the more because of this year's omission. But each member company, including the manufacturing companies, should send as many delegates as it can afford to Atlantic City in October of this year, for the program of subjects is bound to be an attractive one, and the convention will be well worth the trip, in spite of the absence of exhibits.

## Tendency to Settle Wages Without Strikes Is Gratifying

THERE has been a growing and gratifying tendency in electric railway labor matters for companies and men to settle their wage questions directly and without the intermediation of arbitrators. A number of cases of this kind have already been mentioned in previous issues of this paper. Another and conspicuous instance occurred last week when the employees of the Detroit United Railways agreed by a vote of four to one to accept the company's offer in its entirety. In this case three propositions were submitted for consideration, namely, acceptance, arbitration and strike, and the first was adopted by a vote as compared with the second of seventeen to one and as compared with the third of five to one.

Of course a decision of this kind cannot be reached unless the question is approached by both sides in a spirit of reasonableness and desire for settlement. Even when this is done, resort must often be had to arbitration, and it is no reflection on the attitude taken by either side when the opinions of impartial arbitra-

tors are asked. But a direct settlement, where possible, is quicker and more preferable.

It has also been noticeable and gratifying that the number of electric railway strikes over wage reductions during the past six months have been very few. In fact, except for Akron, where the men stopped work on May 5, but later went back, pending arbitration, Albany has been the only conspicuous case of a strike, and the company there was the first of the larger companies to make a wage reduction. There were many dire predictions of industrial trouble to follow a decrease in wages when the lowering cost of living foreshadowed such a reduction, but fortunately these predictions proved false. Undoubtedly both sides have been anxious to avoid strikes, one reason being that the men know the extent of present unemployment, while the companies realize that during the past few years, with their high wages and saving habits, developed through Liberty Loan campaigns, the men have presumably more reserve capital to live on during a strike period than formerly.

Another and still more important reason for the small number of strikes has been that a reasonable wage reduction at this time is recognized as fully justifiable in view of the admitted decrease in the cost of living. That this increase is actual in spite of the persistence of some high charges, like rent, has been so clearly demonstrated as to be undeniable. Perhaps the most extended recent compilation on this point is that contained in the evidence submitted by the employing printers of New York in their recent arbitration case on wages.

## Association's Publicity Section Is Doing Constructive Work

ONE of the most constructive pieces of work which the American Electric Railway Association has yet done is that which the Advertising Section of the Bureau of Information and Service is now doing. As the editors of this paper see it—and this opinion reflects the thought of many others—the Advertising Section is the correct answer to the question, "How Shall the Association Handle Railway Publicity?" In other words, the association is now organized to speak authoritatively to the public—to put the best thought of the industry into bringing out the public's problem from the public's point of view, as real news matter. And the Advertising Section is doing the job.

This section is organized for the purpose of providing a news service to newspapers and any other legitimate publicity medium in the effort to get the true story of the electric railway business before the public, for it is with the public that the railways do business, and in their hands, in the final analysis, rest the restrictions and privileges under which the railways have to work. Further, and even more important, perhaps, this section must open up the channels to these publicity mediums so that the copy is used and must establish a con-

fidence that the material furnished is legitimate, correct and real informative news, not propaganda. Another function of the section is to make a study of possible new methods of railway publicity. The movie is one example of this, as has been suggested in these columns from time to time. And the movie has been utilized, too. The movie "news" films were busy on Electric Railway Day, May 4.

Naturally the success of any such program depends largely upon the personality of those handling the work. The important fact about the present situation is that not only has the association adopted the right method, but it has apparently found the right man to carry it out.

That the section has been accomplishing results of real value to the industry is shown by the story of its work to date, printed elsewhere in this issue. Most companies have concrete evidence of some of this work in their own local press. The work now in hand and planned for the near future is of a most valuable nature and will doubtless have a real and far reaching effect. There has been more useful railway publicity in the past few months since this section was organized than the railways have had in the same number of years, and more of it is to come.

President Gadsden of the American Electric Railway Association is appealing this week, in the name of the Committee of One Hundred, for support of the Advertising Section. While this appeal is addressed, naturally, to the members of the association, it may well be heeded by railway and manufacturer companies who are not members, for this is a movement from which all benefit directly and indirectly. The Committee of One Hundred is a committee of the industry, but naturally turns to the association for machinery and a working organization to accomplish its results. This last sentence, by the way, seems to present good arguments why all railways and railway manufacturing companies should belong to the association and take an active interest in its work.

The association needs and merits support in this publicity activity.

### Peace by Understanding in the State Where People Have to Be Shown

PEACE by understanding has been accomplished in a rate proceeding in Missouri. The case was that of the Kansas City, Clay County & St. Joseph Railway. As noted elsewhere in this issue, the company was seeking a 25 per cent increase in rates. First of all a canvass was made by the company to obtain the opinion of the public with respect to the company and its service. Next the need for the increase was explained and explained so well that there was no contention against the raise as a whole. The application for the increase contained less than 1,000 words. The testimony was brief, for the need for any protracted presentation had been removed when all the different parties with axes to grind had been brought together previously and a basis was established on which proper recognition of the rights of each was secured. As a result the company has obtained its increase, the utility of the service to the community has been preserved to its fullest extent and the relations between the company and its patrons have been improved immensely through a better understanding on the part of each of the problems of the other. The settlement reached so amicably undoubtedly would

have been impossible of attainment under any but the give and take attitude that was manifested after representatives of the company had pointed out wherein all stood to lose if any attempt were made by any party to the readjustment at insistence upon what it considered its inalienable rights. The story of this attainment is a concrete example of building better public relations that every one connected with the industry in an executive capacity owes it to himself to read.

### Take an Active Part in Federal Government

WHAT influences a Congressman? Probably nothing else so effectively as a knowledge of what his constituents legitimately and conscientiously desire. If this is so, it is a duty as well as an opportunity to let representatives in Congress know what is desired and what is felt to be necessary. If one has any influence, he should exert it.

There are several outstanding questions today which are receiving more or less public notice, but particular attention is here called to the questions of taxation, federal reorganization and additional appropriations for certain departments to do specific work which is much needed.

This week President Gadsden spoke before the Senate finance committee with reference to public utility taxation. Ideas are only commencing to formulate on federal taxation and that question will be treated further in these columns as matters develop.

Government reorganization, however, is a vital matter already advanced considerably in congressional study and every impetus which can be given this most desirable move is worth while. The government is primarily an organization to serve the people in their daily individual and collective pursuits, but at present its cluttered up and ponderous, complex and illogical organization reduces its efficiency to an absurd point. Intelligent reorganization is needed and should be supported on the basis of grouping together those functions which are devoted to a given purpose. The administration is making an honest effort to see that it is done right and soon and needs support. The longer the organization is allowed to run as it now is the harder it will be to change it effectively, for a new administration soon gets settled in its ways.

The question of additional appropriations is a complex one and many of its angles are more political in nature than otherwise. But it is worth while pointing out the facts in connection with the requests of the Department of Commerce, which is most closely connected with the industrial and business situation. Herbert Hoover, Secretary of Commerce, has come into the Cabinet with the idea of making his department a real aid to the industry and commerce of the nation. He has called into counsel able representatives of the various lines of industrial and commercial activity and is fast coming to a conclusion as to how best the department may function to provide a service which will really aid business. He finds that, with the appropriations available for the remainder of the fiscal year, he is handicapped in, if not actually prevented from, performing this service and has asked Congress for something over \$600,000 additional. In a way this \$600,000 is in the nature of a capital investment, for Mr. Hoover contemplates a return of \$1,500,000 from other directions if he can carry out his desires.

This request should be supported actively. Only this week Julius Kruttschnitt, chairman of the board of the Southern Pacific, points to the business depression as being beyond the state that railroad rates can affect. The point now is that Herbert Hoover has a plan to help and help quickly. Among others, the editors of business and technical papers have been given the opportunity of analyzing his requests and of cross-questioning him on his plans and methods. They are sound and practical.

Congress should be pressed to act in these matters. The way to do this is to write to the Congressmen. The time to do it is now.

### Minnesota Takes a Forward Step in Electric Railway Franchise Law

**I**N HER new law enlarging the functions of the Railroad and Warehouse Commission, Minnesota has included a clause with reference to indeterminate franchises which should be appreciated concretely by railway companies in Minnesota, and, to a certain extent, though perhaps abstractly, by railways in other states which have not progressed so far in franchise law. The state, in Minnesota, has assumed the responsibilities which a state should assume when it starts to regulate utilities. Regulation by the state is the proper policy, but only when the state can contribute something by its regulation, and this Minnesota now does.

For the future, all railway franchises in Minnesota are, at the option of the company, made indeterminate, whether they are now term franchises or not. This applies, however, only in case the company is a Minnesota corporation. No other provisions or requirements of the existing franchises are modified. Except by future legislative action in line with the police power of the state, such indeterminate franchises may be terminated only upon purchase of the railway property by the city on one of three fair bases of price determination provided in the law.

The law is clean cut in giving to the City Council, without reference to a popular vote, the right to grant franchises. The Council also has control over service standards, routes, etc., and its decisions are not subject to appeal. The commission, on the other hand, has initial and exclusive power over fares and charges, subject only to appeal to the District Court. The commission also has supervision over security issues.

Perhaps the most peculiar—and questionable—provision of the law is that which makes all cities flat fare cities with full free transfers and retransfer privileges. This provision of the law is a formal recognition of the conviction of one large element, and probably the predominating element, of the American public that cities, at least those of moderate size, should be on a flat railway fare basis. It does, however, preclude any experi-

ment of investigation of other means of charging for street railway rides.

Another somewhat peculiar provision is that "all cars used shall be of modern design and . . . shall at least equal in quality, style and design cars now operated in such city." It is the latter part of the quotation which particularly attracts attention, as it might be hard to tell what equality in design means.

The law on the whole, however, is an advance. Its provisions should stabilize the electric railway industry in Minnesota, for the state now practically guarantees fair treatment to legitimately invested capital. First it provides, at least by inference, that fares may be charged sufficient to yield a reasonable return on a fair valuation. Second, it makes obligatory the purchase by the city in case the city desires to terminate the franchises.

As noted last week, the Duluth Street Railway has already elected to come under the provisions of the new law. This is at least an indication of its value, as seen by those most affected by it.

### Avoid a One-Sided View of the Budget System

**T**HOSE who look upon the budget plan as merely a scheme for cutting expenses regardless of results are not aware that its function is three-sided. It acts, of course, to eliminate waste, but it also serves to encourage investment in expense-reducing equipment and to stimulate revenue production. This fact has been illustrated in several articles on budgets which have been presented in recent issues of this paper. The latest was that outlining the plan in use on the Rochester & Syracuse Railroad appearing in the April 30 issue. The plan was commented on editorially in the same issue. It is essentially like other successful plans in that it depends for its best results on co-operation, and only with co-operation can the highest degree of long-run economy be secured.

These remarks are prompted partly from observation of the inability of some department heads to get the money for equipment and construction which will surely pay by returns on the investment. The answer is usually: "You have proved your case, but we haven't the

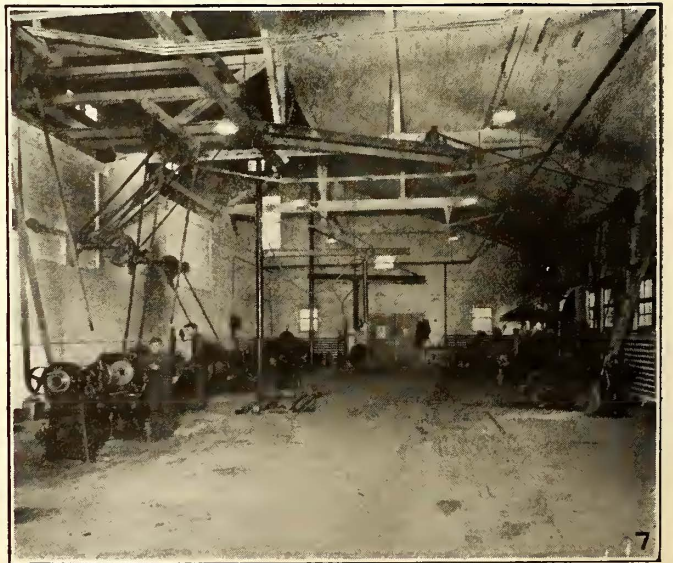
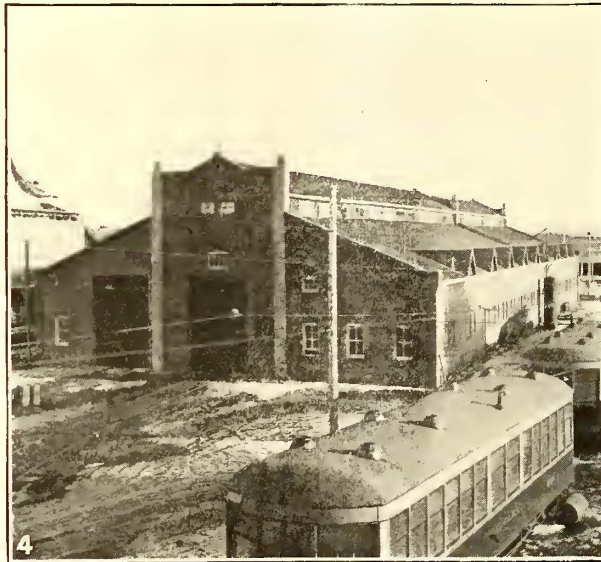
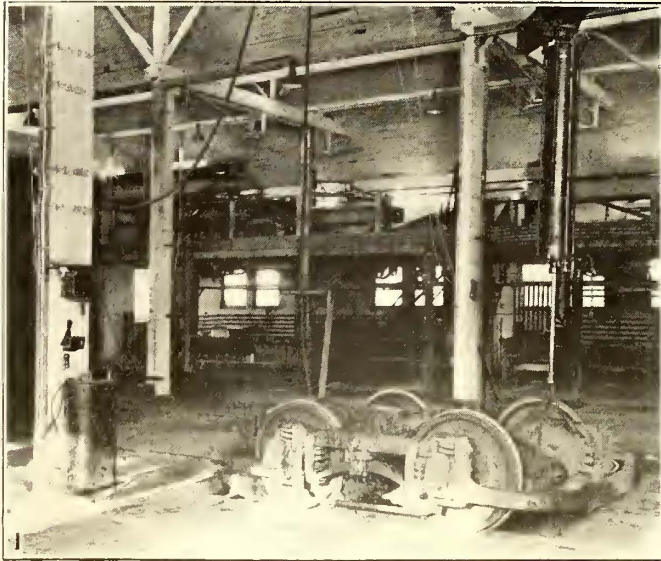
money"; and this answer, unfortunately, is often correct. But if an expenditure will pay a return of, say, 25 per cent on the investment, it ought to be possible to get the money. The budget will help to do it by insuring the best possible distribution of available funds and by demonstrating the necessity for getting in more revenue. Under a system, or lack of it, by which the several departments are not kept informed of all details of the finances, each head is apt to push for all he can get, regardless of the effect on others. A good budget plan eliminates this.

### Quotation from the Federal Electric Railways Commission Report

No. 20

**T**O A degree unknown to private business enterprises, which to a certain extent are able to finance capital expenditures from earnings, the electric railways are dependent upon new investment—new capital—for the extension, improvement and betterment of the service which they perform. Communities need and are constantly demanding additional local transportation facilities. They require large sums of money, which can only come from those with savings to invest. When the flow of new capital ceases, when the confidence of the investor in the ability of the enterprise to safeguard the integrity of the investment and to insure a fair return thereon ceases, new capital is unobtainable and the utility can no longer serve the purpose for which it was created. This condition is now present. Lack of confidence in electric railway investment exists today to a degree which has caused a partial paralysis, is working havoc with the finances of the companies and is depriving the public of the service to an alarming extent.

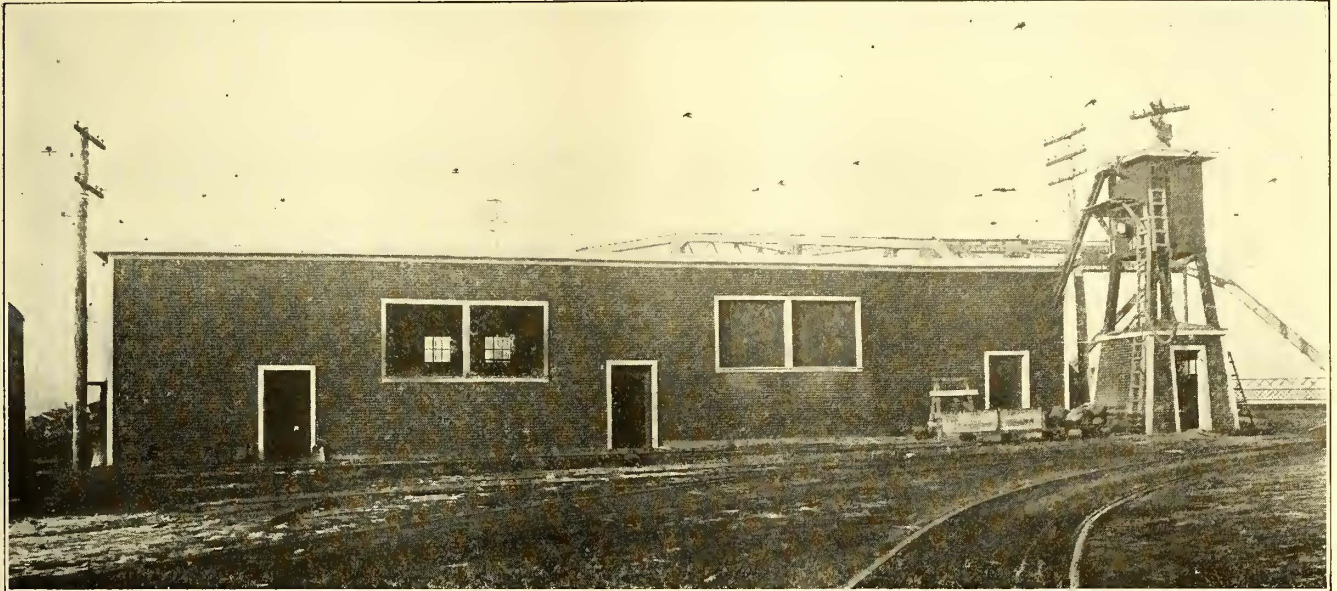
### Former Horse Barn Makes Good Shop Building in Calgary



1. Air hoist and arrangement for operating trucks under their own power.  
 2. General view of Calgary shop.  
 3. Construction view of shop steam pipe line.  
 4. Shop building Calgary Municipal Railway.  
 5. Expansion bend in shop steam line.  
 6. This is a glance at the truck section.  
 7. Machine shop is roomy and cheery.

# Recent Developments at Calgary

A Shop Evolved from a Horse Barn; an Attractive Resort, Bowness Park, and a Convenient Sand and Fuel House Are Among the Outstanding Physical Improvements on This Alberta Municipal Property



COAL, SAND AND WOOD STORAGE BUILDING, WITH SAND TOWER AT RIGHT

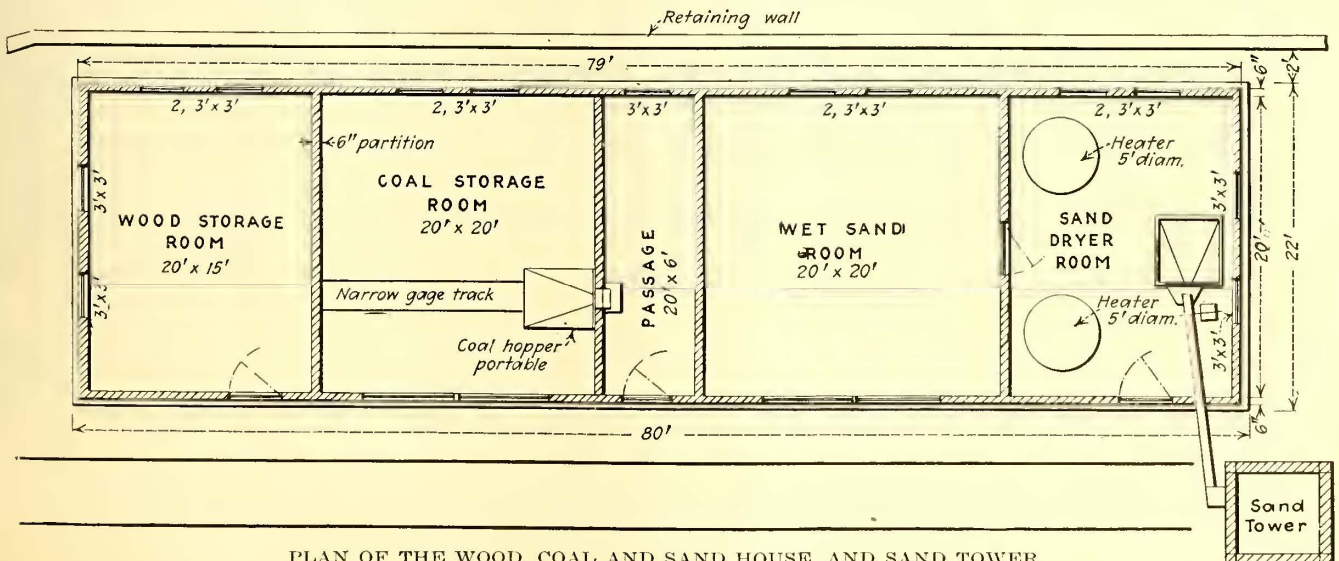
**T**HE Calgary Municipal Railway operates 83 miles of track in a city having a population of more than 75,000, which is spread over an area of 40½ square miles. The population density is low, rendering the furnishing of profitable electric railway service a matter of some difficulty.

The electric railway department is at present combined with the lighting department under the immediate direction of R. A. Brown, who has the title of general superintendent of electric light and railway departments. The two departments were combined after the resignation of Thomas H. McCauley as superintendent of the railway department early in 1920. Mr. Brown reports to Commissioner A. G. Graves, one of

the three commissioners who look after the city government, the other commissioners being the Mayor and the commissioner in charge of public works. Mr. Graves has supervision of public utilities.

Calgary, like other cities in western Canada, was overbuilt during the boom years between 1909 and 1913, and the electric railway service was correspondingly expanded in the expectation of a continuation of the expansion of those days.

The war brought a tremendous reaction. As reflected in the electric railway traffic, the reaction was indicated by a falling off in numbers of passengers carried annually from 24,000,000 in 1913 to 17,500,000 in 1916. In 1920 the number carried was 17,091,356. During the



PLAN OF THE WOOD, COAL AND SAND HOUSE AND SAND TOWER

wartime slump the railway found itself with more track and cars than it needed. There was also a critical shortage of men to operate the system. This situation was met by the changing over of the cars to one-man operation under the direction of Mr. McCauley. This change was so significant that it deserves now a few words of review in the light of the intervening progress in this line that has been made. The situation was described at the time in an article by Mr. McCauley, published in the Sept. 22, 1917, issue of this paper.

Beginning in 1914 with one-man operation of some single-truck cars on three outlying lines, this type of operation was gradually extended and applied on double-truck cars until in 1917 there were forty-two one-man cars in use, of 32 ft., 41½ ft. and 46½ ft. lengths. In remodeling the existing rolling-stock the railway department used a plan devised by Mr. McCauley, in which the passengers enter through a doorway which replaces the right-hand panel of the front of the vestibule. They are thus faced by the operator as they enter, facilitating the collection of fares.

SHOP FACILITIES RECENTLY GREATLY IMPROVED

With the above few historical data as a background, it will be of interest to note the most important of the recent developments on this municipal property. After the armistice was signed, Superintendent Brown was able to secure for the railway department a building formerly used as a stable for the city public works department. It was located near the former over-

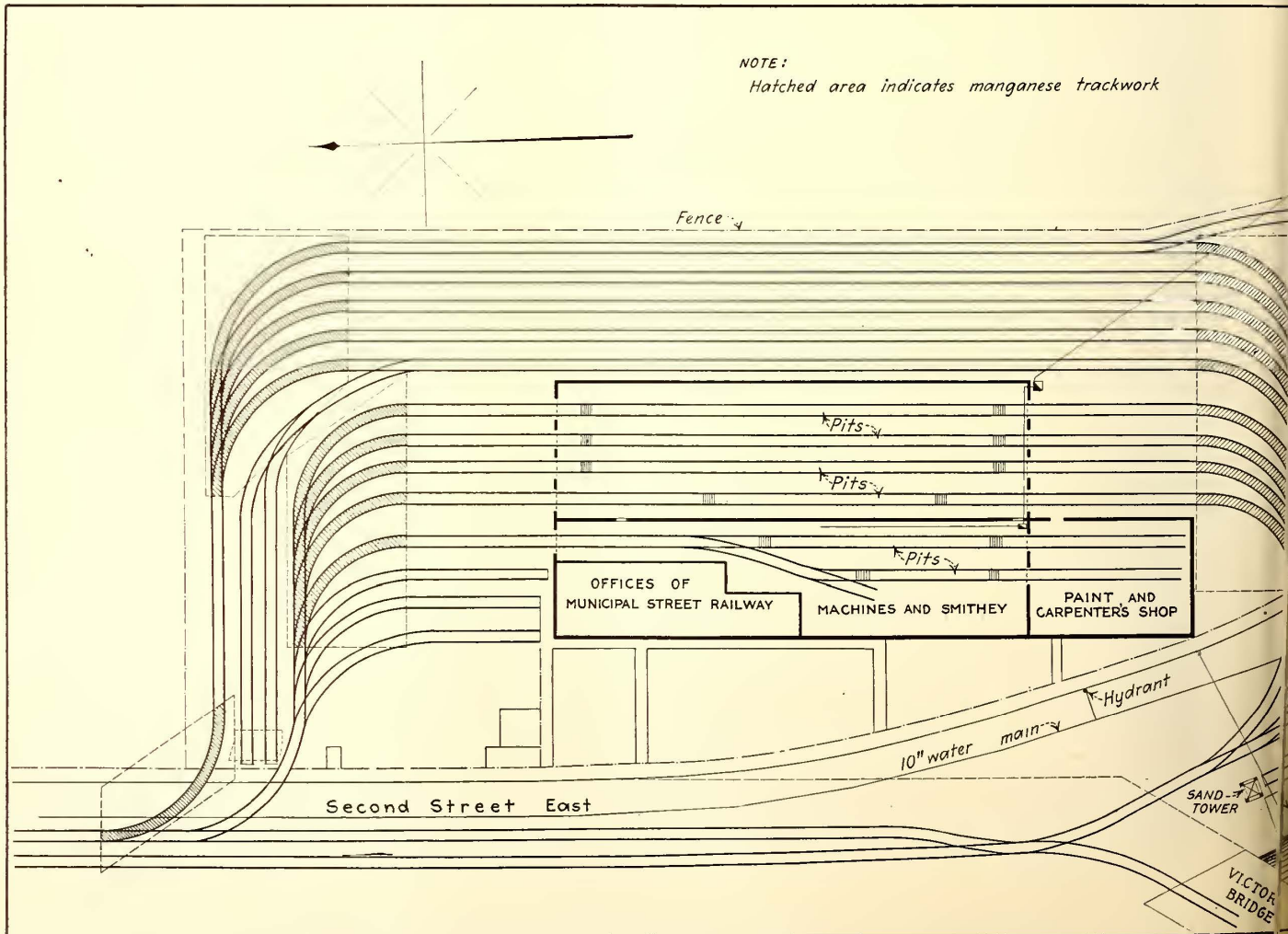
crowded carhouse, shop and office building, as is shown in an accompanying plan.

The shop building is of brick and frame construction, and it formerly contained two floors. The lower floor was used as a stable and the upper as a hayloft. In the reconstruction the second floor was removed and wooden trusses were installed to support the roof. The material reclaimed furnished nearly enough lumber to make all of the alterations. The windows in the side walls were enlarged also and, after completion of the work, there remained a light, airy building well suited for shop purposes.

The general layout of the shop is indicated in the plan reproduced. The following are some details:

The paint shop is completely inclosed with brick firewalls which were a part of the original building. The ceiling of this shop is of wood, covered with sheet metal. Rolling steel doors are used to close doorways in the exterior of the building. A hydrant is located in this shop for fire protection so that the remainder of the building is fairly well protected from the effect of fire which might arise in the paint shop.

The machine shop is located alongside the paint shop. This contains a corner for the blacksmith, this corner being furnished with a forge, a mechanically driven hammer and other miscellaneous forging equipment. There are also here a large wheel lathe, a hydraulic press, a machinist's lathe, a pipe-and-bolt cutter, an emery wheel stand, a drillpress, a hacksaw and a babbiting bench.



LAYOUT OF CALGARY MUNICIPAL RAILWAY'S SHOP, OFFICE AND CARHOUSE PROPERTY

The carpenter shop is provided with a balcony which furnishes a convenient support for the shafting for the heavy machines placed on the main floor. Above the balcony are a few woodworking machines, several benches and a lumber drying rack.

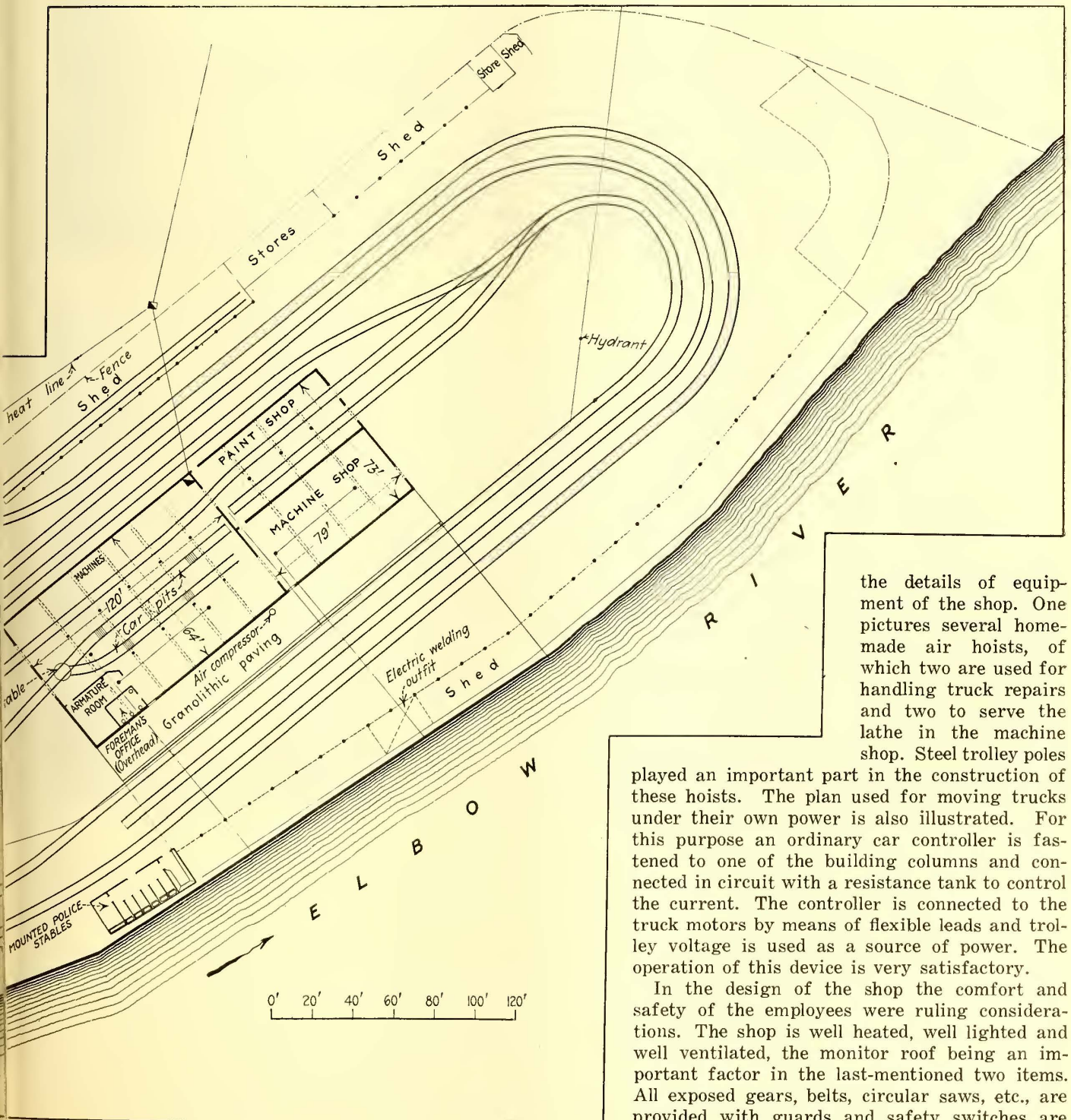
Opposite the carpenter shop is the truck repair shop, together with air compressor and controller repair benches. This shop contains also an air compressor of a capacity of 50 cu.ft. per minute with a receiver located out of doors.

The front end of the building contains a toilet room and an armature room with office and storeroom above. The armature room is provided with a monorail hoist for handling armatures. It is planned in the future

to install also a Universal armature machine in this room. Here is also located a Century electric armature and field tester. Insulation tests are made by applying the trolley voltage of 550 to the armature.

Considerations of economy made it necessary to use wooden doors covered with sheet metal in the front of the building, although it was realized that these are more difficult to handle than the rolling steel doors used elsewhere in the building. In addition to the lower cost, the heat non-conductivity of the wood was a factor in heat conservation, which is considered to be a very important matter in a climate as cold as that of Calgary.

Photographs have been reproduced to show some of



the details of equipment of the shop. One picture shows several home-made air hoists, of which two are used for handling truck repairs and two to serve the lathe in the machine shop. Steel trolley poles

played an important part in the construction of these hoists. The plan used for moving trucks under their own power is also illustrated. For this purpose an ordinary car controller is fastened to one of the building columns and connected in circuit with a resistance tank to control the current. The controller is connected to the truck motors by means of flexible leads and trolley voltage is used as a source of power. The operation of this device is very satisfactory.

In the design of the shop the comfort and safety of the employees were ruling considerations. The shop is well heated, well lighted and well ventilated, the monitor roof being an important factor in the last-mentioned two items. All exposed gears, belts, circular saws, etc., are provided with guards and safety switches are installed on all motors.

LOCATED AT SECOND STREET AND EAST VICTORIA PARK





wartime slump the railway found itself with more track and cars than it needed. There was also a critical shortage of men to operate the system. This situation was met by the changing over of the cars to one-man operation under the direction of Mr. McCauley. This change was so significant that it deserves now a few words of review in the light of the intervening progress in this line that has been made. The situation was described at the time in an article by Mr. McCauley, published in the Sept. 22, 1917, issue of this paper.

Beginning in 1914 with one-man operation of some single-truck cars on three outlying lines, this type of operation was gradually extended and applied on double-truck cars until in 1917 there were forty-two one-man cars in use, of 32 ft., 41½ ft. and 46½ ft. lengths. In remodeling the existing rolling-stock the railway department used a plan devised by Mr. McCauley, in which the passengers enter through a doorway which replaces the right-hand panel of the front of the vestibule. They are thus faced by the operator as they enter, facilitating the collection of fares.

**SHOP FACILITIES RECENTLY GREATLY IMPROVED**

With the above few historical data as a background, it will be of interest to note the most important of the recent developments on this municipal property. After the armistice was signed, Superintendent Brown was able to secure for the railway department a building formerly used as a stable for the city public works department. It was located near the former over-

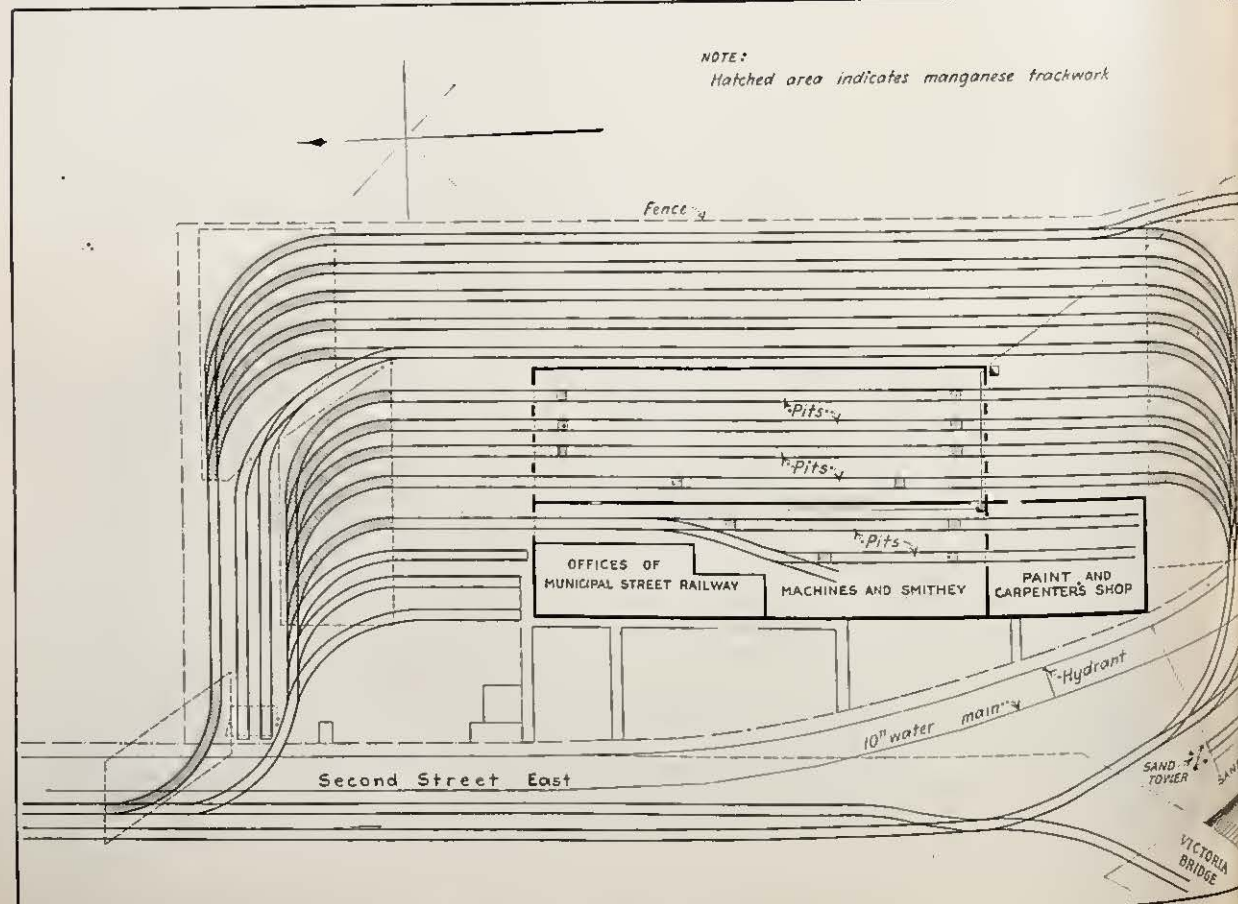
crowded carhouse, shop and office building, as is shown in an accompanying plan.

The shop building is of brick and frame construction, and it formerly contained two floors. The lower floor was used as a stable and the upper as a hayloft. In the reconstruction the second floor was removed and wooden trusses were installed to support the roof. The material reclaimed furnished nearly enough lumber to make all of the alterations. The windows in the side walls were enlarged also and, after completion of the work, there remained a light, airy building well suited for shop purposes.

The general layout of the shop is indicated in the plan reproduced. The following are some details:

The paint shop is completely inclosed with brick firewalls which were a part of the original building. The ceiling of this shop is of wood, covered with sheet metal. Rolling steel doors are used to close doorways in the exterior of the building. A hydrant is located in this shop for fire protection so that the remainder of the building is fairly well protected from the effect of fire which might arise in the paint shop.

The machine shop is located alongside the paint shop. This contains a corner for the blacksmith, this corner being furnished with a forge, a mechanically driven hammer and other miscellaneous forging equipment. There are also here a large wheel lathe, a hydraulic press, a machinist's lathe, a pipe-and-bolt cutter, an emery wheel stand, a drillpress, a hacksaw and a babbiting bench.



LAYOUT OF CALGARY MUNICIPAL RAILWAY'S SHOP, OFFICE AND CARHOUSE PROPERTY.

The carpenter shop is provided with a balcony which furnishes a convenient support for the shafting for the heavy machines placed on the main floor. Above the balcony are a few woodworking machines, several benches and a lumber drying rack.

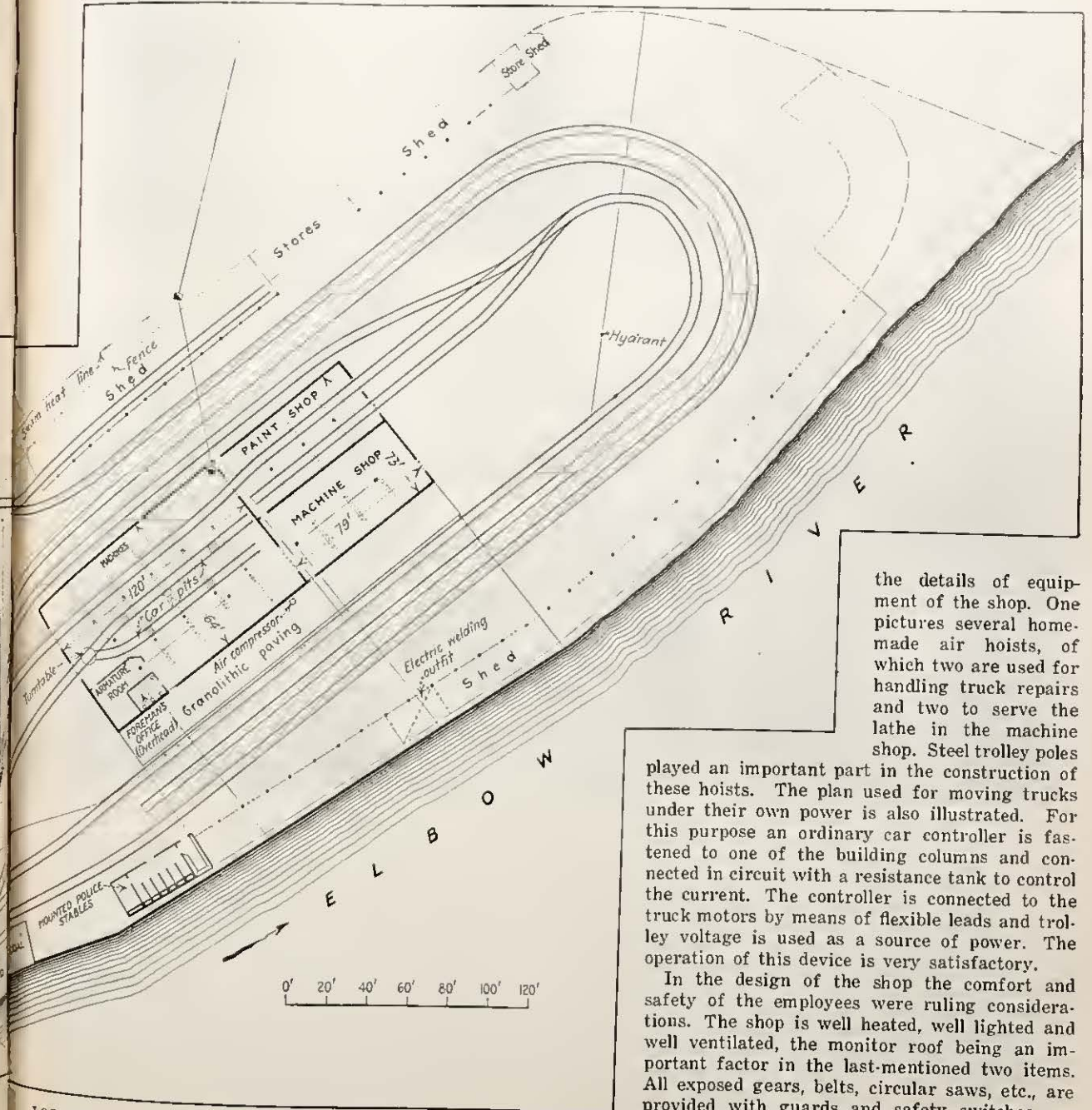
Opposite the carpenter shop is the truck repair shop, together with air compressor and controller repair benches. This shop contains also an air compressor of a capacity of 50 cu.ft. per minute with a receiver located out of doors.

The front end of the building contains a toilet room and an armature room with office and storeroom above. The armature room is provided with a monorail hoist for handling armatures. It is planned in the future

to install also a Universal armature machine in this room. Here is also located a Century electric armature and field tester. Insulation tests are made by applying the trolley voltage of 550 to the armature.

Considerations of economy made it necessary to use wooden doors covered with sheet metal in the front of the building, although it was realized that these are more difficult to handle than the rolling steel doors used elsewhere in the building. In addition to the lower cost, the heat non-conductivity of the wood was a factor in heat conservation, which is considered to be a very important matter in a climate as cold as that of Calgary.

Photographs have been reproduced to show some of



LOCATED AT SECOND STREET AND EAST VICTORIA PARK

the details of equipment of the shop. One picture shows several home-made air hoists, of which two are used for handling truck repairs and two to serve the lathe in the machine shop. Steel trolley poles

played an important part in the construction of these hoists. The plan used for moving trucks under their own power is also illustrated. For this purpose an ordinary car controller is fastened to one of the building columns and connected in circuit with a resistance tank to control the current. The controller is connected to the truck motors by means of flexible leads and trolley voltage is used as a source of power. The operation of this device is very satisfactory.

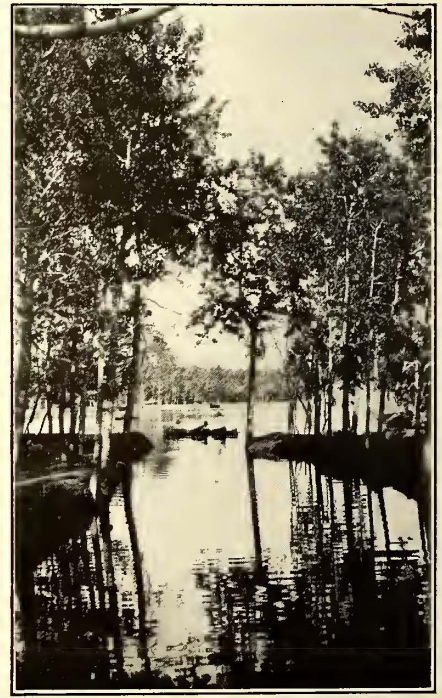
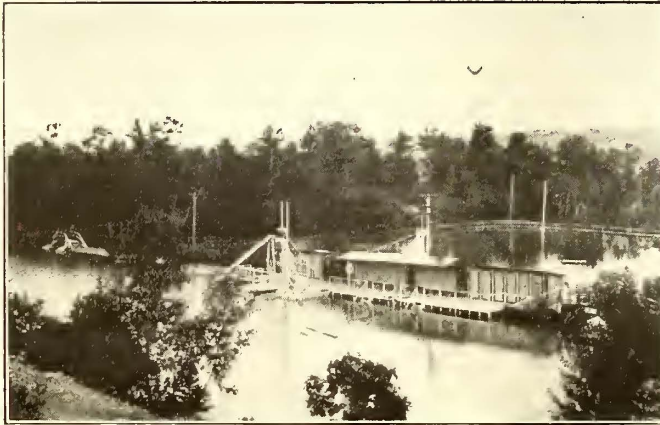
In the design of the shop the comfort and safety of the employees were ruling considerations. The shop is well heated, well lighted and well ventilated, the monitor roof being an important factor in the last-mentioned two items. All exposed gears, belts, circular saws, etc., are provided with guards and safety switches are installed on all motors.

The shop department has made an excellent start in the direction of electric welding, a special booth out of doors having been provided for that purpose. The location of this is shown in the plan. Here worn-out gear cases, broken castings and other parts are repaired, and the welding outfit is also useful to the track department in building up cupped rail joints.

A large saving was made in the heating of the shop by connecting it by means of a well-insulated pipe line with the municipal power plant located 2,000 ft. away.

because of the difficulties of securing sand in the dead of winter. Mr. Brown has, therefore, given special attention to the design and construction of a building for the storage of these necessities and for the drying and delivery of the sand. The plan of the building is shown on page 887. It provides bin capacity for storing about 100 tons of coal and 120 tons of sand.

In the coal storage room is located a hopper, mounted on trucks, and bags are filled in the passageway from this hopper. Sand is dried with natural gas heaters



VIEWS IN BOWNESS PARK, WHICH DEMONSTRATE THAT MUCH HAS BEEN MADE FROM LITTLE

Two illustrations show respectively the method used in insulating the steam pipe and in installing a horizontal gooseneck to take up expansion. The pipe, surrounded with a magnesia and tar paper covering, is laid in split tile directly in the ground and at an unusual depth, out of respect to the soil-penetrating qualities of winter's cold. The gooseneck is in a two-division concrete-walled chamber, designed in this way to permit deformation of the bend and to furnish ample support for the cover and soil above.

On account of climatic conditions large quantities of coal and wood are required in the winter for heating the cars, for which purpose hot air heaters are used. It is necessary also to store a great amount of sand

in the sand-drying room. It is transferred from the heaters to a concrete hopper, where it is screened, and is then elevated by a bucket conveyor to a sand tower which has a small storage capacity and which is conveniently located for a supply of sand to the cars. From the tower the sand drops by gravity, and a rubber hose is used to direct the flow into the sand boxes in the cars.

#### BOWNESS PARK IS ATTRACTIVE AND PROFITABLE

The city of Calgary is not well provided with public parks, so that the park maintained and operated by the railway department, about 7 miles west of the city on the Bow River, is a real factor in providing recreation for Calgarians. The accompanying group of typical

views in the park furnish all needed commentary upon the success of the railway department in building up an attractive resort. From these pictures it is difficult to realize that this attractive park is almost entirely artificial, much ingenuity having been expended in diverting water from the river and directing and impounding it by means of dikes. The waterways were fixed up to provide boating and bathing facilities for the railway patrons and every effort was made to provide for the general comfort of the public. The catering privileges in Bowness Park are leased out for \$3,500 per season. Round-trip tickets to the park are sold for 20 cents, and a considerable source of income for the railway department has thus been created.

### Gasoline Motor Driven Car Tried

A CAR propelled by a gasoline motor and designed to supplant branch line trains and interurban electric cars is being exhibited and operated in St. Louis, Mo., by the Bowen Motor Railways Corporation of St. Louis. The car is being operated daily from Union Station, St. Louis, traversing the Creve Cœur branch of the Missouri Pacific Railway to Creve Cœur Lake. The actual running time for the round trip, a distance of 40 miles, is two hours and thirty-four minutes. About 5½ gal. of gasoline is consumed, which is an average of about 7 miles to the gallon.

The motive power of the car is a 50-hp. gasoline motor, which is slung in front of the body of the car and has a hood covering similar to that of an automobile. The car has a drive shaft like that of a motor car and the power is conducted to the rear wheels through a differential.

The body is similar but shorter than the ordinary electric car. It will seat thirty-five persons and the engine has enough power so that a trailer can be attached if necessary. Electric lights and hot water heat are part of the equipment.

### Electrification Progress in Brazil

ELECTRIFICATION in Brazil is expected to take on considerable activity this year. A recent report in the *Wall Street Journal* states that a bill authorizing the first step of the electrification of the government-owned Central Railway of Brazil has been passed by Congress and a decree to that effect has been issued by the President. The first step includes electrification of numerous suburban lines out of Rio de Janeiro and lines running into Sao Paulo. An expenditure of an amount equivalent to about \$10,000,000 under normal rates of exchange has been authorized. A year ago the Brazilian Congress voted \$500,000 for an extensive survey. This will be the second large electrification project undertaken in Brazil. The other is the electrification of 28 miles of the Paulista Railway, begun last summer and to be completed about June, 1921.

During the war work on extensions of the Metropolitan Underground Railway in Paris practically ceased because of the scarcity of labor. Later financial conditions forbade much new construction, but reports from Paris indicate that an extension of line 7, in some respects the most interesting of any from a construction standpoint, is now being completed. It extends from the Palais Royal under the Louvre and then along the river bank to the Hotel de Ville.

## Omissions in Inventories

A Carefully Conducted Appraisal of an Electric Railway Property Made Recently Disclosed Omissions in Previous Appraisals Amounting to 7.75 per Cent of the Total Valuation

BY LESLIE F. VAN HAGAN

Professor of Railway Engineering, University of Wisconsin

THE term "inventory," as used herein, means the listed items of physical property that make up a plant. In making an appraisal, the first thing to do is to list all physical property. Those who are familiar with appraisal work know that the chief difficulty in preparing an inventory is to find all of the property. The errors of inventory are usually errors of omission. Engineers recognize this condition and provide for it by adding to the value of the property an amount which they consider sufficient to cover "omissions and contingencies." It is usually computed as a percentage of the value of the property. It should be understood, also, that the omissions which the engineer attempts so to cover may be omissions in pricing as well as omissions in inventory.

Just how much of an allowance should be made to cover this item has been a matter of pure speculation. So far as the writer knows, no actual statistics have been brought forth at any time in support of the various allowances that have been used. The allowances have been "guessed at" and supported by the test of "reasonableness." Under existing circumstances that is about all that can be done, but obviously it would be desirable to have concrete information on this point. The purpose of the present article is to contribute a bit toward the accumulation of such information.

The writer was recently called upon to review appraisals of the same street railway property that had been made by the same public utilities commission at periods several years apart for the purpose of determining the reason for certain apparent inconsistencies. It was evident that increases in the appraised value of the property would arise from some or all of the following sources: (1) Additions to the property; (2) increases in unit prices; (3) increases in overhead allowances, and (4) more careful inventorying that would reveal hidden quantities. Without going into detail about methods, it may be simply stated that it was finally determined that there had been an increase in the latest inventory, arising from more thorough inventorying, that amounted to 7.75 per cent of the physical property that had existed at the time of the preceding inventory. That is to say, the evidence was that the earlier inventory showed only 92.25 per cent of the property that the later inventory showed was in existence at the time the earlier inventory was made.

This figure of 7.75 per cent is somewhat startling. The writer knows of no appraisal made by a public utilities commission in which so high an allowance for this item has been allowed to stand. On the other hand, he knows of no previous attempt to determine definitely what degree of accuracy is actually attained in inventorying property. The allowance percentages that are used are largely matters of custom and are copied from one appraisal to another. An allowance of 2 or 3 per cent has been commonly used by state commissions.

There can be no denying that the degree of accuracy varies for various inventories. Even if 3 per cent be

accepted as a fair average allowance for "omissions and contingencies" it is to be expected that, in some cases, the actual percentage will be higher and in some cases it will be lower. In other words, the conditions under which an inventory is made will affect its accuracy. It is of interest, therefore, to note the conditions under which these inventories were made.

#### CONDITIONS UNDER WHICH THE APPRAISALS WERE MADE

There have been three appraisals of the property in question, one in 1907, one in 1910 and the latest in 1914. In all three the street railway company and the commission co-operated in varying degrees. In preparing the 1907 inventory it was originally agreed that the inventory would be furnished by the company and priced by the commission, but the company was so slow and indifferent that the commission had to do a large portion of the inventoring. The president of the company stated frankly that he regarded the appraisal as being intended for taxing purposes, and the company representatives guided themselves by his attitude. The company was in a better position than any outsider to inventory the property, and without the company's complete co-operation the work proceeded under a decided disadvantage. The resulting appraisal was obviously faulty and was soon superseded by the 1910 appraisal.

When the 1910 appraisal was made the question of rates had become predominant and the company's policy had begun to change in the direction of securing as high a valuation as possible. There was greater co-operation between the company and the commission in preparing this inventory, but they did not work under a thoroughly planned scheme that fixed definitely the activities and responsibilities of each party. The commission depended largely upon the company for the inventory, but the company had not yet reached a full appreciation of the importance of making a complete inventory nor the fact that it would have to organize especially for the work. Regular employees were called upon to devote to the inventory such time as could be spared from their regular work, with the result that the inventory received secondary consideration. The commission's engineers supplemented the company's efforts. They had access to company records, but the records, particularly for property acquired many years before by purchase, were not all that could be desired. There was not time to make thorough field surveys, so various short cuts and approximations were necessarily used. It is not surprising, therefore, that the result was imperfect.

The rate question continued to increase in importance, and the company finally awoke fully to the fact that it was to the company interest to have a complete inventory of the property. After some consultation with the commission's engineers and statisticians, the company began to make such an inventory. An organization was set up which developed as the work proceeded until it assumed fairly large proportions. Field parties were sent out, and, at the same time, company records were searched for information that would throw light upon the task. When the inventory was complete it was turned over to the commission's engineers to be checked and priced. The commission's engineers checked approximately 10 per cent of the company's inventory upon the theory that

a 10 per cent check would reveal the degree of fairness and accuracy of the company's work. Whenever, in the case of a given item, the check proved unsatisfactory a more complete check of the item was made. Where it was possible to do so, the 1914 quantities were compared with the corresponding 1910 quantities and the differences were satisfactorily explained or corrections were made. The two sets of engineers—those of the company and those of the commission—worked upon the principle that inventory quantities are matters of fact about which there should be very few differences of opinion. In general, the company's work proved to be fair and accurate. In spite of the careful work of the company in making the inventory, it cannot be claimed that it is perfect. The company learned many things about inventory methods during the progress of the work that it would undoubtedly use to advantage if it were to make a new inventory.

#### GRADING, LONG FORGOTTEN, HAD BEEN DONE

Although the indications are that much property included in 1914 was omitted in 1910, it is not possible to point out exactly what the omitted items were. All that can be stated definitely is that the property shown in the 1914 inventory was actually there. Some few of the omitted items, however, can be identified. For example, a search through old franchises and deeds revealed a number of places where the company had been obliged to do grading that would not be picked up by a field inventory party. One such piece of grading contained nearly 140,000 cu.yd. of material. Again, the company investigated a number of heavy embankments on its interurban lines, where records showed that there had been trouble from settlement during construction. A well-drilling outfit was used and holes were bored through the embankments in a number of places. About \$150,000 worth of hidden grading material, not included in the 1910 inventory, was discovered and added. These instances are offered not only to illustrate why property is sometimes overlooked but also as a sidelight upon the efforts that were made in 1914 to find all existing property.

The writer is not interested particularly in seeing a higher figure established for the allowance for omissions. As an engineer he is not ready to admit, until confronted by convincing data, that it is impossible to attain a 97 per cent result in inventoring. Inferentially, the smaller the allowance an engineer makes for omissions the higher is the quality of his work; engineers in the employ of state commissions are going to keep the figure for omissions as low as possible. At the same time it seems evident, from the facts here presented, that there may be justification for breaking away from the figure of 3 per cent when conditions make it seem advisable. If we accept a 3 per cent allowance for omissions in inventory and pricing as an average figure (perhaps it should be considered the minimum figure), variations from that figure should be permitted whenever the conditions that surround the making of the inventory justify them.

Without doubt there are figures in the possession of various state commissions that would establish the limits within which the allowance should vary. It would not be difficult to make studies similar to that upon which this paper is based, and the information would be well worth the trouble.

# Engineer vs. Auditor in Cost Keeping

A Conference of These Department Heads with the General Manager  
Brings to Light the Common Controversy and Points Out  
the Moral in an Interesting Colloquy

BY E. A. W.

"WHAT does this mean, \$14,000 for an extension of our 60,000-volt transmission line up Dry Creek and we are going to abandon that line next year?" It was the general manager talking, and he had the chief engineer seated before him. "You told me before you started the job it would not run over \$10,000."

"We based our estimate on figures given us by the cost department," replied the chief engineer. "To be sure we didn't go into details. You were in a hurry and we supposed the cost department figures on the Bear Cañon extension would be close enough. The two extensions are almost identical."

The general manager, or "old man" as he was popularly called, sent for the auditor. Upon his arrival he went into executive session on the subject of costs, cost-keeping, cost analysis, and proper preparation of estimates, with the chief engineer and auditor.

There were many opinions and thoughts uttered. The auditor got his back up at one stage of the game and declared his department should not be held responsible for detailed cost data, that the compilation of such information was an engineering function. This argument was joyfully received and acquiesced in by the chief engineer. The general manager threw a bucket of ice water on the proposition by declaring that cost data, to be of value, must check precisely with the general books, and he was agreeable to the cost records being kept by the engineering department provided the auditor would vouch for their accuracy and be willing to take the stand before a court or the utilities commission and swear to values by quoting and use of such data.

It is needless to remark that the auditor failed to agree to any such arrangement, but the general manager's proposition placed the thing in a new light. It brought out the indisputable fact that cost records to be of value and free from attack must balance with the general books.

"What do we want cost data for anyway?" suddenly asked the G. M. "I'll bet each one of us has a different reason." The auditor spoke first: "I'm not so much interested in detailed costs and quantities as I am in totals. As long as I can keep my books straight as regards additions to property and retirements of property, and not mix construction and maintenance, I'm satisfied."

## COSTS FROM THE CONTROL STANDPOINT

"I need to go further than that," volunteered the engineer. "I want detailed data for estimating purposes and to check against quotations from contractors and firms doing work for us. I need costs and quantities in quite considerable detail to enable me to prepare my monthly and yearly budgets."

"Your needs are important and coincide with mine

to a certain degree," said the G. M., "but I go you a step further and will probably surprise you when I say costs are of paramount importance from a control standpoint and you have both overlooked what to me is their major value."

"Control standpoint!" both the auditor and engineer unisoned, "what have we been talking about?"

The G. M. smiled. "To bring out my point, will you both agree that as our cost estimating works out at present we use it mainly for post-mortem analysis? We can very profitably use it to predict or pre-plan with. As an illustration of what I mean, you, Mr. Engineer, can lay out on paper a proposed transmission line, tell exactly the size of copper wire needed to carry a given amount of electrical energy to a certain point. You know in advance what your electrical losses will be and just how far apart the wires must be placed to avoid short circuit. You can figure to within one of the number of poles needed, and just what additional electrical load your generating plant will have to supply. If the generators are not of sufficient electrical capacity to supply the additional energy needed, you can lay out on paper a new generator and tell before a single workman has started its construction just what energy you will get from it; and furthermore, its efficiency. A navigator can lay out his course while in port and follow it on the high seas until it finally takes him into the port of destination. Don't you see it now, the electrical engineer and navigator can tell accurately in advance just what the results of their calculations will lead them to, and by mathematics find out the most efficient design or most expeditious course to follow?"

"Yes, but don't we also use cost data for the same purpose?" spoke up Mr. Engineer. "We make out our cost estimates in advance of a job."

"To be sure you do, and always allow a good margin for contingencies," said the G. M., "and how often do you put in revised estimates when a job is half way along? I would like to see cost data used scientifically to plan a job. By such use we should be able to pre-determine methods and results from a cost standpoint as well as we do now from design."

"I see where I have got to change my viewpoint," said the auditor. "My training for years has been along lines of investigation and audits."

"No, I don't agree that you should change your viewpoint in the least, Mr. Auditor, but you can, with considerable profit to yourself, enlarge it. For years your training has been balancing income and outgo, debits and credits, as well as balance sheets for a busy directorate and the treasurer. Physical quantities and their value, labor hours and production per labor hours, changes in methods and ensuing results have made impressions but have been pushed aside for debits and credits and balance sheets."

"You're right, G. M.," and the engineer pounded the table before him. "At the last meeting of our Engineering Society almost an entire session was devoted to lambasting accountants for not revising their ancient methods of cost accounting. Solomon's bookkeepers used the same general scheme when the temple was built that most accountants have today, and like Masonry, it has been handed down intact through the ages."

"I seem to be getting mine at this pleasant little knocker's convention," crisply interjected the auditor. "Well, go as far as you like. I'm here to learn, but Mr. Engineer, don't throw out your chest with righteous indignation and imagine yourself the most abused person on earth. If I recall correctly, you seemed satisfied with things when we started this conflict. Let me say, however, while I have the floor, that under our present method of cost accounting a great part of the accuracy of our records devolves upon your organization. For example, if you can't get your foremen to turn in proper time cards and quantities used, what can my cost clerks do?"

"Righto," came back Mr. Engineer friend. "We have not been as careful or strict as we should have been, but now that the subject is opened up, I'd like to say that my field forces are hired to use tools and not to push pens and pencils. I want to say also that cost reports mean nothing in my pure young life but a check against estimated costs. I haven't the time to study the detail sheets, new estimates require all my attention. I wish we could revise and better our methods of making up estimates so they would be more complete."

"You fellows seem to be working up to the point I am striving for, and that is to reduce the clerical work of our supervisory staff and field forces to an absolute minimum, and at the same time secure the maximum results from a cost control standpoint. To accomplish these two results our cost department must give more attention to its work than ever before, for we will look to it for control. Today the auditing department and engineering department pass the buck to each other whenever a question arises."

The manager reached in a drawer in his desk and pulled out a bunch of estimates, or work authorizations. Turning to the chief engineer, he said: "Here is a job showing a probable expenditure of \$8,000 for a new transmission line to the Hurricane Coal Company's property. No doubt the quantities shown are fairly accurate, but what did you base your labor costs on?"

"I presume the superintendent of lines followed his usual custom and guessed so many men for so many days, digging the dope out from the experience file he carries on his shoulders."

"Just so, all right. Now suppose when you first learned that this line was to be built you had given the cost department the size of wire needed, type of insulation, hangers, cross-arms, height of pole, length of line, all on a blueprint, with special reference to any unusual matters not ordinarily encountered, and they had shortly thereafter handed you a complete itemized estimate, what would you do?"

"Say, Boss, I'd throw a fit," the engineer laughed, "and after I had come out of it, I'd say the estimate was crazy and, without wasting time to look it over, have the line department make a real one."

"Well, now, suppose some more," continued the G. M. "Let's assume the estimate was correct, more so than

many an overworked superintendent could prepare. Would not such knowledge be of greater value to you than all the post-mortem cost analysis made up?"

#### THE ENGINEER AND AUDITOR SEE THE POINT

The chief engineer was thinking and thinking hard; he had the light of a new idea in his eyes; even the grizzled old auditor was doing some. The latter was aware of the oft-repeated complaints of his cost clerks that the operating heads did not make use of the carefully detailed and elaborate cost statements issued from their department. It was dawning on the auditor that it was a proper function of the cost department, rather than that of the operating department, to analyze and question.

The discussion between the general manager, auditor and chief engineer gave each one a new perspective. The engineer saw the relation of cost preparation to design. The auditor saw a neglected function, which, properly set in motion, would make his department a greater help in administrative control, and at the same time insure more accurate bookkeeping. The general manager visioned greater operating efficiency and control through direct comparison of statistics prepared by an unbiased, disinterested, organization.

To be sure the engineer wondered if adopting such methods of cost estimating would not result in endless explanations, but the opportunity of securing cost data carefully prepared and showing comparisons offset the thought. He was interested in output per labor hour more than in cost per unit.

The general manager knew a new day in cost accounting was dawning, when methods and results would be firmly bound together, inefficiency in the first quickly shown in the second, where idleness, lost time, inadequate machinery, inefficient working forces, lack of facilities, would show up promptly. He knew that the determination of costs in advance, instead of piling up complications of past results, gave him a better grasp on causes, which is the main idea in control.

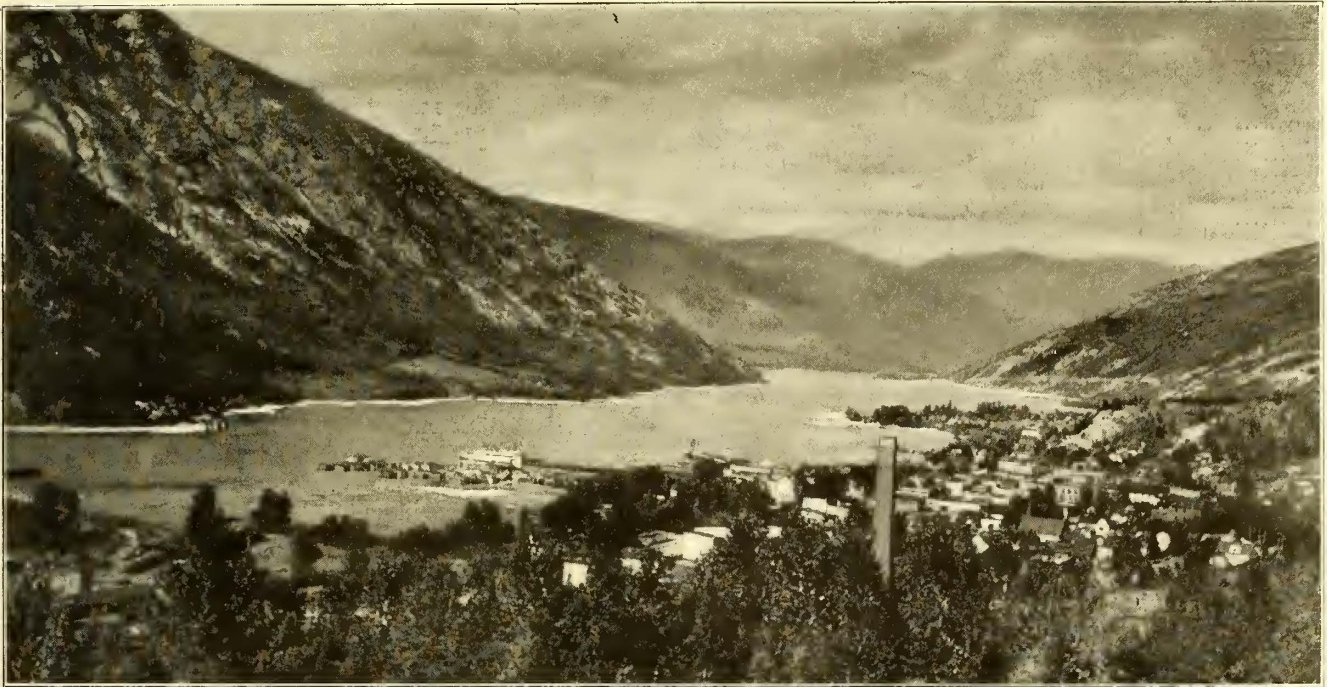
It was gradually dawning on the auditor that his cost system was woefully lacking and incorrect in its application, that cost statements were not being analyzed with the idea of reducing wastes, but rather as an index of the guessing ability of the estimator. He understood that before any job could be started somebody had to outline why it was necessary, what was to be used, where it was to be used, when it was to be used, how it would be done. But his job would be to show if the job was warranted in view of its cost, and this big "if" should be known before and not after the work was started.

#### White Line Shows Swing of Cars

**I**N THE heavy traffic sections of Youngstown, Ohio, the local police department has had white lines painted on the pavement to indicate the clearance necessary for the swing of the street car platforms. These lines are a great help, it is claimed, in preventing collision of the cars with pedestrians or automobiles. However, in connection with the use of these lines, it is pointed out that they serve simply in the nature of a warning to the driver of an automobile or a pedestrian and help him in making sure that he is in the clear. The presence of the line does not absolutely prevent an accident and in no way relieves the street car man of his share of responsibility.

# Selling Rides in a City of 6,000

Interesting Experiment During Nine Months of 1920 in Selling Twenty-five Tickets for \$1 at Nelson, British Columbia, Pushed by Woman Chairh Fare Bringing Less Today—High Percentage of Grades and Curves Has a Tendency to Discourage Walking



VIEW OF NELSON ON KOOTENAY LAKE

**N**ELSON, British Columbia, with its population of 6,000 and a street railway of but 2.5 miles route (4 miles single track in all), does not seem at first blush likely to offer any experience in the matter of selling electric railway transportation. Nevertheless, the very fact that no healthy persons in Nelson (and most of them are healthy) have to use the trolley gives point to the experiment made by this municipally owned road. A rather high percentage of grades and curves is about the only thing to discourage walking.

The earliest fare prevalent on this road was the eight-for-a-quarter ticket and 5-cent cash fare in use from 1910 to 1915, no change having been made in rates when the city took over the railway in 1914. In 1916 war increases made it necessary to sell the tickets at the rate of six for 25 cents, and in 1918 the cut-rate ticket was given up for a straightaway cash fare of 5 cents. As it happened, the years 1918 and 1919 were among the most active in the history of the community, with the result that 1918 at 5 cents showed more passengers and revenue than most of the corresponding months of 1917, while 1919 made a still better showing in comparison with 1918, the increase in passengers being from 299,516 to 364,839 and in revenue from \$14,976 to \$18,201.

However, there was then (1919) on the Board of Aldermen an enthusiastic believer in greater usefulness of the street railway in the person of Mrs. W. Garland Foster, chairman of the street railway committee. While acknowledging that the 5-cent fare had done well, she held the opinion that a twenty-five for \$1 ticket would

do still better if the right push were put behind the bargain rate. One member of the committee was with Mrs. Foster, another was opposed and a third was a benevolent neutral. When the matter was brought before the municipal council there was strong opposition, headed by the Mayor and by an Alderman who has since succeeded him in that position. However, the plan went

TABLE I—COMPARISON OF LIKE MONTHS OF 1920 AND 1919

Month	Increase in Passengers
January	10,604*
February	6,774*
March	3,275†
April	6,338
May	5,590
June	3,067‡
July	7,738
August	7,633
September	5,880
October	5,482
November	3,930
December	2,043

\* Exceptionally good weather; 5-cent fare.

† Last month of straight 5-cent fare.

‡ One car out for repairs three weeks.

through in April, 1920, and was continued to the end of December, 1920. At that time a combination of circumstances, especially the large cost of securing a supply of new tickets, the coming in of a new council and the hope that still larger revenues were possible, led to the return of the 5-cent fare. Mrs. Foster did not object to this decision, believing that time would tell whether the psychological appeal of the reduced rate was or was not as good as she believed. As a matter of fact, January, 1921, shows a drop to \$1,512.35 at 5 cents compared with \$1,643.95 at 4.66 cents fare in December, 1920. But it

may be that the storms of January, 1921, had as much to do with this as favorable weather did with the January, 1920, returns, which were \$1,674.50 at a 5-cent rate of fare. In any event, this has been the course of affairs.

#### COMPARISON OF FINAL QUARTERS

If the first quarters of the years 1918, 1919 and 1920 are ignored because of the unusual January, 1920, noted, it will be of interest to compare the last nine months of the same years. It will then be found that the 1919

TABLE II—PASSENGERS CARRIED, NELSON (B. C.) MUNICIPAL RAILWAY

	1914	1915	1916	1917	1918	1919	1920
January.....		16,285	18,409	23,872	24,096	23,130	33,734
February.....	20,932	14,964	18,114	21,312	21,649	22,778	29,552
March.....	24,827	15,892	19,817	23,524	24,785	25,629	28,904
April.....	25,552	17,605	19,523	21,581	22,650	25,347	31,685
May.....	26,333	16,809	19,271	23,207	23,553	25,485	31,075
June.....	24,958	18,873	22,839	14,687	25,369	32,022	35,089
July.....	34,634	22,207	26,334	30,368	36,589	43,358	51,096
August.....	31,933	12,945	30,125	30,541	28,690	41,969	49,602
September.....	23,087	20,721	24,877	25,452	27,669	33,662	39,542
October.....	*	*	*	*	22,728	26,907	32,389
November.....	*	*	*	*	17,673	29,021	32,951
December.....	*	*	*	*	24,065	35,531	37,574
Total.....					299,516	364,839	433,193

\* Information not available.

#### RATES OF FARE

Eight tickets for 25 cents and 5 cents cash, 1910-15.  
Six tickets for 25 cents and 5 cents cash, 1916-17.  
Five cents cash, 1918 to April, 1920.  
Twenty-five tickets for \$1, and 5 cents cash from April, 1920.  
Five cents cash January, 1921.

period showed a gain over 1918 of 28 per cent in traffic (293,302, against 228,986) and of 10.6 per cent in revenue (\$14,668.16, against \$11,449.31). Also a comparison of the last nine months of 1920 with the same period of 1919 shows that the traffic continued to rise, namely, from 293,302 to 341,003, or 16 per cent, and that revenue also continued to rise, namely, from \$14,668.16 to \$15,616.85, despite the fact that 50 per cent of the passengers were paying 4 cents.

Obviously, nothing is harder than to draw hard and fast conclusions in a period of changing business conditions. Nevertheless, it does seem from the following Table III that the change to a 4-cent ticket rate resulted in a stimulation of traffic:

TABLE III—RAILWAY EARNINGS, NELSON (B. C.) MUNICIPAL RAILWAY

	1916	1917	1918	1919	1920	1921
January.....	\$920.45	\$1,193.60	\$1,204.80	\$1,105.45	\$1,674.50	\$1,512.35
February.....	905.70	1,065.60	1,082.45	1,169.15	1,464.45	.....
March.....	990.85	1,176.20	1,239.25	1,268.00	1,429.90	.....
April.....	976.15	1,079.05	1,132.50	1,260.40	1,676.50	.....
May.....	963.55	1,160.35	1,177.65	1,274.25	1,377.40	.....
June.....	1,141.95	734.35	1,268.45	1,601.10	1,618.40	.....
July.....	1,316.70	1,518.40	1,829.45	2,167.91	2,371.00	.....
August.....	1,506.25	1,627.05	1,434.51	2,098.45	2,248.95	.....
September.....	1,243.85	1,272.60	1,383.45	1,683.10	1,786.40	.....
October.....	*	*	1,136.40	1,345.35	1,430.75	.....
November.....	*	*	883.65	1,451.05	1,463.50	.....
December.....	*	*	1,203.25	1,776.55	1,643.95	.....
Total.....			\$14,975.81	\$18,200.76	\$20,185.70	.....

\* Information not available.

In connection with the decline in rate of increase, it is worth noting that January, 1921, at the full 5-cent rate shows an absolute loss of approximately 3,487 passengers (33,734 passengers in January, 1920, against 30,247 in January, 1921), although it would not be fair to ascribe all the loss to the change in rate of fare.

#### AN EFFICIENT TOWN MOTHER IS MRS. FOSTER

During the period that reduced fares were in vogue Alderman Foster was also responsible for an up-to-the-minute improvement in the pavilion at Lakeside Park, namely, the provision of electric plates, kettles and hot water for picnic parties. An old-fashioned flower gar-

den was also added to help riding, but riding continued to increase even after the close of the park season.

In conclusion, it may be mentioned that Mrs. Foster's interest in street railways was not confined to the traffic or sales department. As a delegate of an organization convening at Ottawa she visited the Ottawa Car Company's plant to get the latest facts concerning one-man car operation, and one of her committee recommendations was "that a weed killer be used on the street railway, and, as the weed killer is poisonous, that the owners of animals in the city be warned not to pasture their animals on the streets." The reference to the use of highways for a grazing common indicates that Nelson is not exactly a crowded community!

## Fares and Short-Haul Traffic

Graphical Study of Short-Haul Traffic Under Varied Combinations of Headways and Rates of Fare, Which Have Marked Effect on Gross Revenue of Railway Companies

BY EDWARD A. ROBERTS

Engineer with John A. Beeler, New York, N. Y.

IT IS generally recognized that the rate of fare charged by a city street railway and the headway of service have a marked effect on that part of the company's gross revenue that is received from short-haul riders. The experience of virtually all companies which have raised their fares is that some of the short-haul passengers become pedestrians with each increment of fare, for which an allowance must be made in predicting the revenue that will be received from higher rates of fare. It is the purpose of this article to outline a simple process for indicating the effect of increases in fare on the gross revenue received from short-haul riders under varying conditions.

The first principle to take into account is the value of the short-haul rider's time. He will make a trip on a conveyance only when by so doing he saves enough time to compensate for the fare paid. If he cannot do this, he will walk or at least fail to patronize the street cars. To illustrate, if a man's time is considered as being worth 50 cents an hour, and the street car fare is 7 cents, this man in using the cars must save 7 cents' worth of time, which would be 8.4 minutes over the time required for walking.

The accompanying charts have been prepared to show the gross revenue receivable from each 100 persons who would use the street cars for rides up to 3 miles in length if it resulted in a saving of time sufficient to compensate for the fare charged. Three rates of fare, 5, 7 and 10 cents, four different car headways, two and one-half, five, ten and fifteen minutes, and two values of the car rider's time, 25 and 50 cents per hour are assumed.

The case of 100 persons desiring to take a street car ride of 2½ miles on a line with a ten-minute headway will first be taken and the value of these people's time will be assumed at 25 cents per hour, and that they are capable of walking at the army rate of speed, 5 ft. per second. The average speed of the street cars will be considered as 10 m.p.h. To walk the 2½ miles will take 39.6 minutes, while to ride will require 13½ minutes, so that the person who can board a car without waiting will save 26.1 minutes, while the person who has to wait the whole headway, ten minutes, will save 16.1 minutes.

On a 5-cent fare basis the price paid for the ride is



equivalent in value to twelve minutes of the passenger's time. In this case the entire 100 people should be attracted to the street car service because of the time saving. With a 7-cent fare and a ten-minute headway, 16.8 minutes must be saved to compensate for the price of a ride. The man who can board a car immediately can afford to ride, but he who just misses one will be 0.7 minute or forty-two seconds better off by walking. If the 100 people are assumed as arriving at the stopping place at regular intervals, say six seconds apart, just seven of them will arrive during the forty-two seconds following the departure of a car, and consequently will fail to save time by riding on the street car. The remaining ninety-three will profit so far as time is concerned by riding, and at 7 cents each will yield \$6.51. With a 10-cent fare, twenty-four minutes is required to offset the expense of riding. Direct connection will save 2.1 minutes over the walking time, but the man who has to wait ten minutes for a car would be much better off by walking. Only 21 per cent of the people

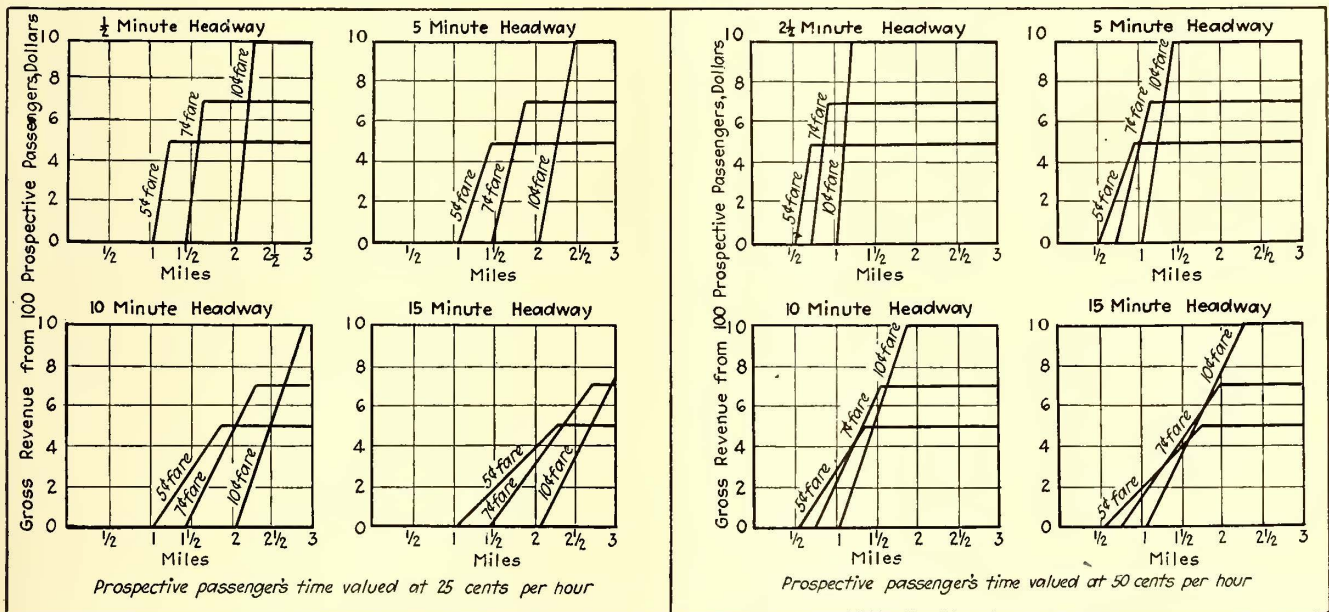
total revenue resulting from increased fares is in many cases less than that received with a lower fare.

WHAT IS VALUE OF PERSONAL DEAD TIME

It should be noted that the minimum length of trip which a person is justified in taking on a street car does not vary with changes in headway, but depends only upon the rate of fare and the value of the person's time. The data indicated by the charts on this feature are as follows:

	Minimum Justifiable Ride-Miles		
	5-Cent Fare	7-Cent Fare	10-Cent Fare
Prospect's time at 25 cents per hour...	1.03	1.45	2.07
Prospect's time at 50 cents per hour...	.52	.72	1.03

Objection to the method used might be based on the rather far-fetched assumption that each probable rider arriving at a street car stopping place has to know exactly when the next car is due and that he has to go through some sort of a calculation to determine whether



DIAGRAMS SHOWING COMPETITIVE WALKING DISTANCES FOR VARIOUS HEADWAYS WHEN BASE FARES ARE FIXED AT 5, 7 OR 10 CENTS AND TIME IS VALUED AT 25 OR 50 CENTS PER HOUR

will in this case find it a satisfactory financial transaction to pay the 10-cent fare.

The point at which a sloping line in the charts starts upward indicates the minimum ride which a person is justified in taking provided he just connects with a car, which would be of course regardless of the frequency of service. The top point of the sloping line shows the minimum ride the person who waits the full interval between cars is warranted in taking. Stated in other words, the top point indicates the maximum distance a person who just misses a car would be justified in walking. The slope of the line bears a direct relation to the headway and is a measure of the doubtful zone in which a person might either walk or ride. The more frequent the service, the shorter should be the walking radius of possible riders.

The accompanying charts have been obtained by following out this process in detail for a number of different cases. The charts show that on the shorter trips the lowest fare yields the most revenue and they illustrate the bad effect of higher fares on short-haul traffic. They further give a definite indication of the relative values of increased rates and show that the

he will walk or will wait for a car. This, of course, is not done in detail under actual conditions, but it is a fact that the average person going but a short distance does often make a hasty survey, by looking up and down the street, to determine whether a car is approaching or has just left. This survey causes him either to walk or to ride. Most persons also either consciously or unconsciously put a fairly definite value on their time, and in deciding whether to spend money to save time they are swayed by the personal monetary value of time saved. Furthermore, the person who habitually makes the same short trip realizes very quickly whether the street cars always save him enough time to warrant their continued use. It is believed therefore that the method used for determining the proportion of possible riders that will be customers approximates fairly closely the actual conditions. This method of comparing results to be expected under different rates of fare also provides a good forecast.

The placing of a definite value on the average car rider's time is not at all a simple task, and one person's estimate is about as good as another's. A person's earning ability should, however, not be confused with

## Steel Rails\*

Expert Outlines Present Status of Rail Making and Raises Questions as to the Problems Which Have Been Suggested by Extensive Experience in Conducting Special Inspections

By C. W. GENNET, JR.

Of Robert W. Hunt & Company, Engineers, Chicago, Ill.

THE first T-rail ever made in America was rolled at Danville, Pa., in 1845. Twenty years later the first bessemer steel rails were rolled at the North Chicago mill. It was just as difficult in the early days to obtain satisfactory rails as it is today.

It is estimated that a production of 4,500,000 tons of rail per year for the next five years is necessary in order to put the railroads in proper physical condition and to overcome deferred maintenance caused by the war. There will be difficulty in obtaining any such quantities, owing to the fact that many rail mills have been turned over to the production of other forms of steel.

No doubt rails wear rapidly in various places of heavy traffic and have to be quickly replaced, but, on the whole, there is little question that the general adoption of open-hearth steel has gone a long way toward satisfactorily solving problems of wear that were so frequently raised with bessemer rails. The question of safe rails is now much more important than whether rails will give a year or two more service.

Ordinary figures for failures are not particularly impressive except to the technician. But interpreting published records in a certain way indicates that for open-hearth steel one rail out of every eight hundred laid may be expected to fail and has to be replaced in the first five years of service. Only about half of the total failures are what may be termed of a dangerous type. The others mostly consist of defects occurring in the head of rails, which as a rule can be easily detected by careful surveillance and removed prior to the development of further trouble. Notwithstanding what the types of failures may be, or how prolific they may be, questions of specifications and manufacture are important and deserving of the fullest thought.

### UNIFICATION OF RAIL SPECIFICATIONS IS DESIRABLE

There is little use in threshing over the subject of specifications, except in a very general way. The matter is in the competent hands on the one side of the American Railway Engineering Association's rail committee, while on the other side are the manufacturers. The regrettable fact seems to be that the two sides cannot compose their differences, as by arbitration for example, and enable a single specification to be promulgated for general use by all the roads. My criticism of most rail specifications is that they are too broad in certain features and too narrow in certain others, with the result that both manufacturers and consumers suffer aggravating incidents that could easily be prevented. Manufacturers frequently find it difficult to get good steel quickly accepted, and on the contrary railroads are frequently bound to accept what unquestionably ought to be rejected outright.

To illustrate the point, consider for a moment 99-lb. rails for which there are at least four specifications in common use having their low limits of carbon varying by the small difference of four points. If a mill

rolling for one customer whose low limit of carbon is 0.63 per cent happens to get a heat showing 0.62 per cent carbon but satisfactory in all other respects, the slight difference of one point of carbon in the specification makes it necessary for the rails, or perhaps the ingots, to be diverted from the original to some other customer. That possibly means allowing the ingots to get cold, later to be reheated and rolled—a performance almost bound to result in inferior practice both in the mill and later on the track. The matter of a few points of carbon, and possibly some other elements, has repeatedly been proved to be quite insignificant in the long run and easily overshadowed by the kind of treatment accorded the steel in the mill. Determination of what constitutes a reasonable minimum limit for carbon, and insistence on such as a standard, the same as 0.04 per cent has been fixed for years as a maximum for phosphorus, would be a great step forward in harmonizing specifications without serious detriment to the users.

Again, specifications lack breadth in the customary clause governing straightening. No doubt the specifications used in 1844 read the same as they do now, namely, that "rails must be straight in line and surface." The result of this requirement is that rails may be strained beyond their elastic limit in twenty or more places by repeated blows in the cold-straightening press, only then to be shipped to a 5- or 6-deg. curve and readily spiked into place. Modern section rails are exceedingly flexible and, providing they contain no short bends or sharp kinks, it would seem practicable to accept them within certain limits perhaps, without the damaging cold straightening now given to each and every rail. Experimental lots of such rails have given fair service and the subject deserves more attention.

### THE ITEM OF TESTING IN RAIL SPECIFICATIONS

Most rail specifications are too broad with respect to the testing, both chemically and physically. The chemical composition is invariably obtained by analyzing drillings taken from a small test ingot weighing a couple of pounds and cast while the regular ingots are being poured. There is no prescribed size or shape for the test ingots used by the different mills, nor restriction on whether they shall be cast from the first, middle or last part of a heat. In fact, no restrictions prevail of any moment whatsoever, pertaining either to the test ingots, *per se*, or to the chemical practice that may be later followed in doing the analytical work. The result is that the actual chemical composition reported by the mills for their steel may vary decidedly as between different mills, so that a 65 carbon heat in Colorado may be quite different from a 65 carbon heat in Alabama or Pennsylvania. It should be said in justice that this subject is being investigated and early action is hoped for.

The physical tests do not, as a rule, go far enough to protect against bad or unsound rails being accepted and laid in the tracks, only to be replaced perhaps after a short service. Testing two or three pieces of rails to represent as many as two hundred made from perhaps fifty ingots, each possessing marked individuality, even though from the same heat, is incompatible with the tests prescribed for many other products on whose use hinges no important question of life. A requirement for oil line pipe is that each and every length, in addition to passing a careful surface inspection on both the inside and the outside, shall withstand a prescribed

\*Abstract of paper read before the Western Society of Engineers, Chicago, Ill.

pressure test. Each piece of cast-iron water pipe, whose walls may be an inch thick, must likewise be tested and inspected. And a most odious comparison with the tests on rails is afforded by a recently adopted specification for wrought-iron tie plates, which requires a complete tensile test to be made on one out of every thousand plates, a proportion by weight which if applied to rails would mean something like sixteen tensile tests per heat. The proposed abandonment of the drop test, for years recognized as a standard test for brittleness, and the plan of covering this feature by resort to a measurement for ductility obtained under difficult and uncertain conditions, is regrettable. Granting the importance of ductility for rail steel, the imposition of arbitrarily determined limits for it, the matter of measuring it satisfactorily except in the laboratory, and finally the question of accepting or rejecting rails whose ductility varies by a hundredth part of an inch, is, to my way of thinking, positively dangerous. Would it not be better to waive the question of the ductility of rails entirely, as it was so long an unknown thing, and to devote more study to the definition of "interior defects" and such positive methods for detecting them as would permit of rejecting those rails whose test piece fractures show unmistakable signs of segregation?

The manufacture of basic open-hearth steel rails of modern sections is a process fraught with many questions of practice very different from that followed in the bessemer methods of a few years back. The introduction of large furnaces from which a hundred tons of steel is tapped for a single heat, the casting of as many as fifty ingots on a heat, the use of large heavy ingots, and last, but not least, the fact that modern rail steel is sufficiently high in carbon to be easily susceptible to heat treatment, are features so influencing the general process as to make constant attention necessary to matters that in the old days were scarcely present at all. My observations of manufacturing conditions, resulting from the closest of contact with the special inspection of rails at all of the different mills, convince me that many of these often neglected matters are paramount to other details so frequently brought to the front, as, for instance, a few points of carbon. And in this connection permit me to say that special inspection has not only revealed many important incidents that no mill superintendent will condone when his attention is called to them, but it has also afforded opportunity for tracing the history of bad rails in service back to some slighted detail of manufacture no doubt responsible for the failures.

#### SOME PERTINENT QUESTIONS ON STEEL MANUFACTURE

I regard the manufacture and rolling of rail steel as of more importance than that of any other steel product, and conditions emphasize the necessity of making thorough studies of the various features of present-day methods. Such studies must frequently be based not only on the manufacture itself but on the story that the rails in service may later tell. Records for many subjects are already in hand and time and work are merely required to afford definite information on questions of great value to both railroads and manufacturers. Literature is very weak on many of the subjects that ought to be investigated and discussed. And among the many questions that can be raised I suggest some of the following, pertinent of modern practice and especially appropriate, therefore, for original research and study:

1. Are rails made of steel by the continuous Talbot fur-

nace process comparable with those made by the straight open-hearth method? In the continuous process the furnace is seldom emptied, but a hundred tons or so of steel is tapped every two hours, as against the ten hours of time required to make an equivalent heat in a regular furnace. Is the steel from the rapid working Talbot furnace sufficiently free from oxides and other impurities to afford good, sound rails, and how can such a matter be quickly proved?

2. What effect, if any, on rails has steel made by the Duplex process, wherein highly oxidized metal is added to the open-hearth furnace, sometimes very soon before tapping? How can rails rolled from steel containing excessive amounts of impurities be detected?

3. What effect on rails is produced by recarbonizing the steel in the ladle with coal or coke and then adding cold deoxidizers to the ladle? What is the real effect produced by holding a ladle of steel prior to casting the ingots to permit of time for the chemical reactions to settle?

4. What is the effect on rails rolled from ingots cast with running stoppers and sometimes without any control by the ladle operator? How does the size of the nozzle, pouring temperatures and time required to cast the ingots of a heat influence rails?

5. How soon after casting ingots should they be charged into the soaking pits in order to assure a minimum of piping and segregation? What effects are produced by delays in promptly charging the ingots to the pits, and what is the effect of unduly and rapidly chilling the outside or skin of the ingots?

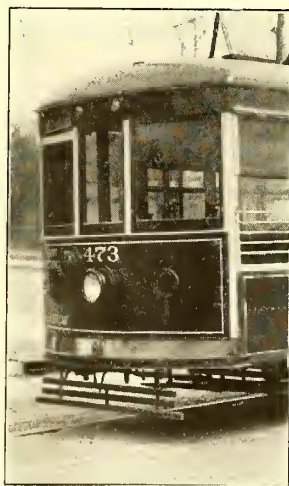
6. How long a time and under what conditions of gas and air regulation should ingots remain in the soaking pits? What kind of control of the pits is best to insure against overheating or burning the ingots? What is the effect of rolling rails from ingots one side of which has been heated so hot as to show a bright white spot significant of overheating?

7. What effect on rails have different rates of blooming the ingots? In some cases 8-in. x 8-in. blooms are made from ingots in nine passes and in other cases in twenty passes. Some mills work rapidly and others slowly; does this produce any difference?

8. What effect on the grain structure or the life of rails is produced by increasing the number of passes, or work given to the steel, when the ingots are rolled into rail? One mill makes a rail from an ingot 19 in. square in fifteen passes, while another mill makes the same rail from an ingot 24 in. square in twenty-nine passes. Has the average rate of reduction per pass any effect on the life of rails?

9. What matters mostly influence the production of rails showing seams on the surface? Some heats are practically free from indications of seams, while on other heats rolled at the same time seams are abundant.

### Signal Tail-Lights for Safety Cars



SAFETY CAR EQUIPPED WITH INDICATING SIGNALS

RED and green tail lights which are alternately automatically cut in, red to indicate power off and green to show power on to the following car, truck or automobile, are being installed on all of the safety cars in Terre Haute, Ind. Seventeen cars have been equipped at the time of this writing and the remaining forty-three cars are being equipped at the rate of four or five a month as they come into the shop for regular overhauling. This signal arrangement was described in the *ELECTRIC RAILWAY JOURNAL* for Aug.

3, 1918, in connection with its use on cars of the Philadelphia Rapid Transit Company for service to the Hog Island shipyard and on cars of the Cleveland (Ohio) Railway. As the Cleveland cars are single-ended the signal lights are carried at the center of the dash.

## Stirling Boiler Improved

Recent Modifications Which Have Been Made in the Design Make for Standardization, Greater Accessibility and More Convenient Setting

SEVERAL changes have been made during the last few years in the design of the Stirling boiler by the manufacturers, the Babcock & Wilcox Company. A side view of the latest type, equipped with a superheater and a chain grate stoker, is shown in the accompanying engraving. Briefly, the changes from the original type can be grouped under seven heads:

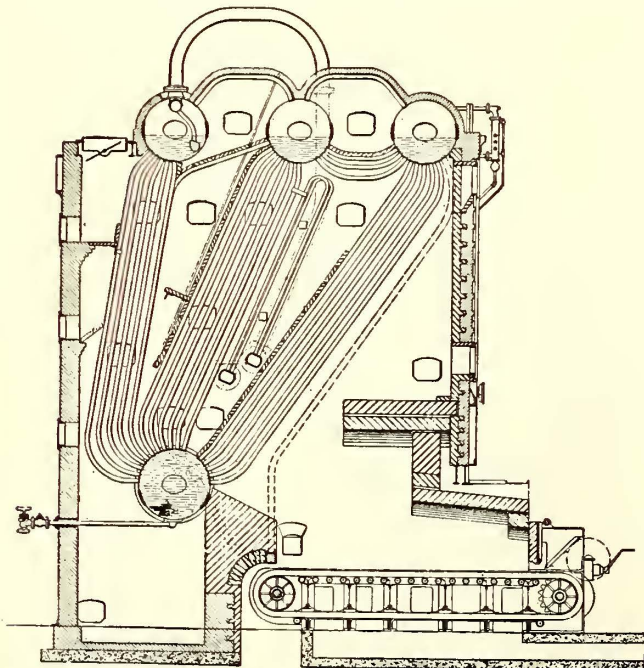
1. All steam drums are now placed on the same level, the steam being taken from the rear steam drum. The primary purpose of this is to reduce priming with concentrated water.

2. Protection of the rear steam drum is given by a baffle carried on the front tube of the rear bank, this tube being expanded into the center drum.

3. The arrangement of the tubes circumferentially on the mud drum is such as to give a larger superheater chamber than before. This permits a greater amount of superheating surface for higher superheat than hitherto has been obtainable and also greater ease of access to the superheater headers and handhole caps.

4. In stoker-fired work, except in the case of stokers of a design that permits of carrying the front boiler wall, this wall is carried on supporting members furnished as part of the standard boiler equipment. Where this front wall is so carried a slip joint between the front boiler wall and that portion of the wall carried on the stoker is used. These features not only definitely fix the responsibility of carrying the front boiler wall but give a front wall construction that may be repaired without taking down the entire wall.

5. Where the size of the boiler wall is such as to make



SECTION THROUGH ONE OF THE NEW CLASSES OF STIRLING BOILERS

it advisable the use of bonding tile with properly designed supporting members is standard construction in the front wall. This construction, as proved in operation, is successful in overcoming the tendency of the front wall to spring inward.

6. In the earlier designs, where battery settings were installed, a three-legged center support was standard in the battery wall. In the redesigned boiler the center support has but two vertical members, doing away with this objection.

7. In battery settings special means of access for inspection of the inside mud drum heads is standard in the redesigned boiler.

The studies that have led to the redesigning of the Stirling boiler naturally led to a consideration of the variation between classes and sizes of boilers. This has resulted in an entirely new classification in which the variation between the classes and sizes is simple, logical and progressive. While the purchaser of steam boilers is not primarily interested in methods of manufacture provided proper construction methods are followed, it is, however, the purchaser who ultimately receives the benefit of any improvements in manufacturing methods.

This reclassification will undoubtedly lead to a reduction in manufacturing cost through a reduction in inventory of material that must be carried in the number of standards in use, etc. While the manufacturer of this boiler will offer previous standards to complete plants in which such standards were installed, it is the intention to offer the redesigned and reclassified boilers for all new work.

### A. S. M. E. Papers on Boiler Operation and Boiler-Water Analyses

THE results of a series of eleven tests made on a 468-hp. Edgemoor boiler fired with pulverized coal, at the Oneida Street Station of the Milwaukee Electric Railway & Light Company, reveal that the customary specification of pulverizing coal to the extreme fineness of 85 per cent through a 200-mesh screen is an unnecessary precaution. These tests, conducted by Henry Kreisinger, research engineer Combustion Engineering Corporation, and John Blizard, fuel engineer United States Bureau of Mines, and the results of which are printed in the May issue of *Mechanical Engineering*, published by the American Society of Mechanical Engineers, indicate also that completeness of combustion is more a matter of a proper furnace and burner design and of the right way of supplying air rather than of the fineness of the coal. It was also found that undried coal could be burned as successfully as fuel dried to 1 per cent moisture, the only difference being a slight decrease in efficiency which checked closely with the increase in losses due to evaporating the increased moisture in the coal. The best results were obtained when the coal was burned at a rate of 1 to 1.5 lb. per cu.ft. of combustion space per hour.

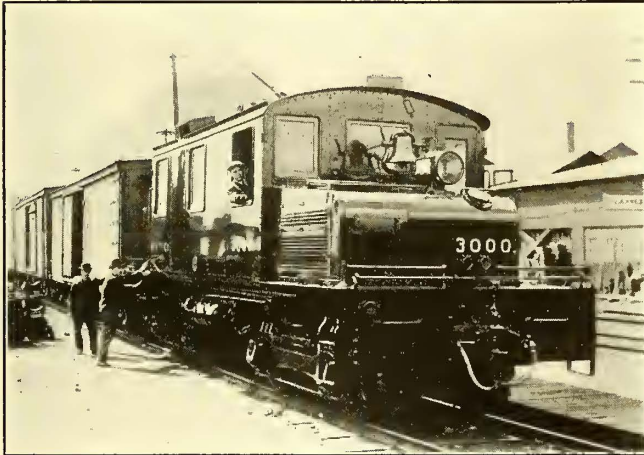
In considering the corrosive effects of boiler feed water, J. R. McDermet, research engineer the Elliott Company, in an article in the same publication states that boilers operating below rating rarely suffer any damage from corrosion from oxygen whatever its content in the feed water. Regardless of the forcing, however, if the concentration of oxygen be kept below one part per thousand by volume pitting action is seldom experienced.

The corrosion of cast iron, in its initial stages, is more rapid than that of steel, but the adhering residue immediately forms a protective coating which arrests further action. Cast-iron economizer corrosion is due to the continuous removal of this protective coating.

## New Locomotive for Monongahela Valley Traction Company

THE Monongahela Valley Traction Company has recently purchased a new 50-ton class B Baldwin-Westinghouse locomotive, which is a duplicate of locomotive No. 2,000, installed about two years ago. The new locomotive has just been placed in service.

The locomotive is equipped with four type 562-D-5, 100-hp., 600-volt, field-control motors and double-end



MONONGAHELA VALLEY 50-TON LOCOMOTIVE JUST PLACED IN SERVICE

HL control. It will be used for general utility haulage, as this company does extensive business on a steam-railroad basis of operation. An important part of the business is the movement of gasoline tank cars from Jackson's mill on the Clarksburg Weston lines to the freight interchange of the Baltimore & Ohio Railroad near Clarksburg.

The general characteristics of this locomotive are as follows:

Weight .....	50 tons
Maximum tractive effort at 25 per cent adhesion..	25,000 lb.
Normal tractive effort at 9.7 m.p.h., full field, one hour .....	15,200 lb.
Continuous tractive effort with forced ventilation, short field .....	9,000 lb.
Maximum trailing load starting on $\frac{1}{2}$ per cent grade.	860 tons
Balancing speed, short field, at 600 volts on level with 500-ton trailing load.....	17.5 m.p.h.
Balancing speed, short field, at 600 volts on 3.0 per cent grade with 200-ton trailing load.....	10.5 m.p.h.

The locomotive will also be used in conjunction with locomotive No. 2,000 in hauling coal to the Domestic Coke Company plant at South Fairmont, as well as for hauling carloads of slag for ballast work along the railway company's tracks. Freight business on this property has increased considerably, both in carload and less-than-carload movement, the latter being handled on a package-freight basis.

## The Spray Gun for Painting

THE firm of W. N. Matthews & Brothers, St. Louis, Mo., is now marketing the Matthews automatic spray gun for painting. This spray gun is furnished in two types, one designed for general painting purposes in industrial and manufacturing plants when quantity production is essential, and for painting large areas, general house painting, etc. With this type of gun the container holding the paint is suspended above the surface being painted and the paint flows to the

gun through a hose. The feature of this spray gun is that the air and paint are mixed at the point of the nozzle and not inside the gun. The other type is the jar type, which is especially adapted for use in plants where frequent changes in paint are required. This gun is designed so that the paint is held in a small container which is screwed to the under side of the valve.

Either of these models can be adjusted to produce either a narrow line or to throw a spray of sufficient volume to cover 80 sq.ft. per minute. The air pressure necessary varies from 10 to 80 lb. per square inch, depending upon the character of the paint being used.

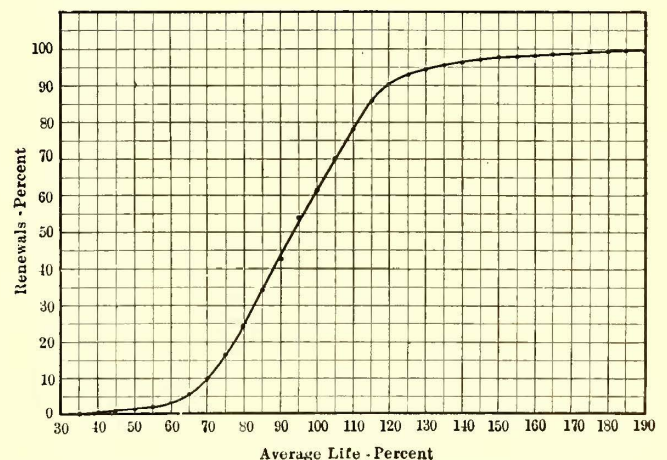
## Tie Renewals in Relation to Average Life

RECORDS kept by the Forrest Products Laboratory, Madison, Wis., have shown that there is a general law governing the rate of renewals in all groups of railroad ties, no matter what kind of wood is used in the ties, where they are placed or whether they are untreated or treated with preservatives. These records show a wide variation in the lives of various groups of ties, but a remarkable similarity between the percentages of ties that need replacement at proportionate intervals in the lives of any two groups.

The comparisons are based on forty-three groups, including 42,000 ties of many species, some untreated and some treated. For any of these groups, the percentage of renewals in relation to the percentage of average life is fairly represented by the curve shown.

This curve answers several valuable purposes. It can be used in estimating the average life of a group of ties long before all the ties in the group have been removed, also to show the number of replacements that will be necessary during a given year.

As an example, assume that out of a group of 1,000 ties, 200, or 20 per cent, have been removed at the end of four years. From the curve it will be seen that 20 per cent of a group is usually removed at about 77 per cent of the average life. The average life of this group, then, will be 5.2 years. Further computation shows that the number of replacements to be expected during the fifth



TIE RENEWALS IN RELATION TO AVERAGE LIFE

year is about 350, the sixth year 300, the seventh 100, and that at the end of nine years practically all the ties in the group will have been removed.

Thus, with the aid of the curve, it is possible to predict the average life of any group of ties even while most of them are still in service.

# American Association News

ASSOCIATION'S PUBLICITY PLAN AS OUTLINED—ENGINEERING AND OTHER ASSOCIATION REPORTS ARE BEING WHIPPED INTO FORM—EXECUTIVE COMMITTEE SELECTS ATLANTIC CITY FOR CONVENTION, WHICH WILL BE HELD IN NEW HALL ADJOINING BOARDWALK

## Atlantic City Gets 1921 Convention

ONCE more Atlantic City has been chosen as the location of the annual convention of the association. The 1921 convention will be held during the week beginning Oct. 3. In view of the fact that there are to be no exhibits in connection with this year's convention arrangements have been made to hold the meetings in a new building that has only recently been completed on the Boardwalk at North Carolina Avenue immediately in front of Haddon Hall.

This building has a large convention hall, where the principal meetings will convene, and immediately adjacent thereto are smaller rooms that are to be used for the meetings of the affiliated associations.

The subjects committee has already mapped out a program for the American meetings of extraordinary interest. This will be announced at an early date. The program for the affiliated associations will consist mainly of committee reports and addresses, dealing as usual largely with railway operation. Delegates who attend the convention are urged to come prepared to avail themselves of the especial opportunity that is to be given to enter into a full discussion of the reports and papers on the floor of the meeting.

The usual arrangements have been made with the Hotel Men's Association for accommodations and those who are planning to attend should make their reservations at an early date.

Full details as to the program and other matters of interest pertaining to the convention will be published from time to time as they are completed.

## Sales Taxes Uncollectible on Urban Car Fares

PHILLIP H. GADSDEN, chairman of the joint tax committee representing the American Electric Railway Association, the American Gas Association and the National Electric Light Association, in a statement before the Senate finance committee on May 10, said it would be very difficult, and almost an impossibility, to apply a sales tax on street car fares. So far as the electric and gas utilities are concerned, the same would apply where the prepay quarter meters are used. The cost of changing the 1,250,000 prepay meters in the country so as to collect a 2 per cent tax from the consumer would be \$2.50 per meter. The tax that would accrue on the basis of the average consumption of gas at \$1.50 per thousand feet would yield only 37½ cents to the government per annum. In other words, to collect the tax these utilities would have to make an investment of about as much as the government could collect in taxes in seven years.

A revision of the federal tax laws to preclude the issuance of tax exempt government securities so as to enable regulated industries to dispose of their securities was also declared vital to the utilities.

Mr. Gadsden said that public utilities did not seek to evade taxation, but merely desired better conditions under which to market their securities for the purpose of providing extensions and betterments to their properties. Since public utilities as a class are regulated as to operation and compelled to give service at fixed prices regardless of economic conditions it is only fair that they be considered as a separate class in taxation legislation. The appointment of a special subcommittee to make a thorough study of the public utility tax situation was urged.

Two features of the securities situation which were declared vital to the continued operation of public utilities are: Persons upon whom public utilities must depend very largely for new money—those subject to a surtax of over 3 per cent—no longer will buy public utility securities, because they find tax exempt 5 per cent government securities better investments.

The only persons who, under the present tax laws, find it profitable to buy public utility securities are those whose incomes are less than \$10,000 a year. Their combined savings are only \$116,000,000, or about \$1,884,000,000 less than is required by the public utilities, including steam railroads, electric railways, gas, electric light and power plants, annually to make their betterments and extensions.

The most serious question which confronts public utilities is their inability to secure the new capital required annually in competition with tax exempt municipal securities.

Under the law public utilities are limited to a return on their investment of not over 8 per cent. Unless they can pay over 8 per cent they cannot compete with exempt municipal and state securities.\* The result of this situation is that inevitably these extensions and betterments cannot be made. Service will slow down and become unsatisfactory and there becomes a growing demand on the part of the public for the acquisition of these utilities by municipalities on the ground that they could borrow money at not over 5 per cent. In other words, while the political policy of this country is firmly and definitely opposed to municipal and government ownership of utilities the taxation policies of our government are forcing it whether it is wanted or not.

Unless the policy of exempting municipal securities is discontinued we are rapidly drifting into practical socialism, which in its essence means ownership of everything by the public.

What is the answer? First, follow the advice of Secretary Mellon in his recent letter to the chairman of the ways and means committee and forbid further issuance of tax exempt securities. This, however, will fail to relieve the present public utility situation. It is estimated that there are \$14,000,000 of tax exempt

\*This estimate is based on a computation of interest rates, which included, among its factors, the risk involved and the effect of the Federal income taxes. Public utility capital was considered as having been raised on the usual ratio of bonds and stocks.—[Eds.]

securities now outstanding. If the public utilities are to develop as they should there must be some relief from discriminatory burdens of taxation as it affects the investor. This position must not be misunderstood. The public utility companies are not themselves asking for any relief in taxation, for they propose to pay their full measure of taxation, but they think some plan will have to be devised by which their securities can compete successfully with those already under tax exemption laws.

### What Is the Association's Publicity Plan?

UNDER date of May 5 President Gadsden addressed a letter to all member companies, asking for contributions to support the publicity work being carried on at the association's headquarters under the direction of the committee of publicity. In his letter he states that the audit of the books of the association has progressed far enough to make it clear that a special assessment will not be necessary, for the obligations of the association can be met out of current receipts without its work being curtailed. Since the defalcation was discovered publicity work has proceeded along the lines laid down by the Committee of One Hundred and the results to date more than justify the belief of the publicity committee that much good can be accomplished by its plan. Continuing, he said that at his request the publicity plan of the Committee of One Hundred for future work and any action looking toward financial contribution to carry on this publicity had been deferred until it was determined whether it would be necessary to call upon the membership to make up deficits accruing on account of the recent defalcation.

Now that such an assessment is not necessary, the committee proposes to carry out its original plan. President Gadsden believes that the great importance of carrying on the proper sort of publicity is realized and therefore urgently requests that all members give the program their closest attention and co-operation.

#### WHAT THE PLAN IS

With a view to obtaining a better public understanding of electric railway problems, the Committee of One Hundred, co-operating with the publicity committee of the American Electric Railway Association, opened on Jan. 1, 1921, an advertising section in the association offices, New York.

The functions of the advertising section are: To offer free suggestion, advice and counsel to electric railway companies on their advertising and publicity problems; to prepare for local distribution, car cards, leaflets, booklets, newspaper advertisements and other advertising material; to prepare bulletins on the electric railway situation for the use of public speakers, for distribution by bond houses, investment bankers and other institutions engaged in the sale of electric railway securities, and for utility managers to use as good will promoters; to issue to the press statements, news stories, speeches and articles of interest regarding the industry; to co-operate with state and national public utility information committees; to act as a general clearing house between electric railway companies for the dissemination of advertising and publicity material; to make engagements for widely known speakers before national conventions and other large gatherings for the discussion of electric railway problems, and to co-operate with these speakers in seeing that they obtain correct facts upon which to base their addresses and that

their remarks receive proper distribution; to study the motion picture field in an effort to adapt it to use as an electric railway advertising medium.

#### RESULTS TO DATE

Since the advertising section has been opened more than a million copies of leaflets containing constructive facts calculated to inspire fairer treatment of electric railways have been distributed through local companies.

Co-operation has also been manifest with newspapers, for hundreds of columns of news material have been printed. Among the items covered have been the condition of the electric railways nationally; the financial needs of public utilities; financing and refinancing of electric railways; wage reductions.

The section has also prepared and distributed to the member companies a summary of references to electric railway legislation suggested by the Governors in their annual legislative messages and car cards summarizing the findings and recommendations of the Federal Electric Railways Commission.

It planned and helped to carry out National Electric Railway Day, May 4, 1921, which resulted in driving home through parades, motion pictures, display advertising and newspaper stories, varying in length from 600 words to a column and a half, the lesson of increased efficiency of electric railways and low charges for service.

In addition the section has through its chief, Labert St. Clair, aided by advice and suggestion many local companies in making special campaigns.

#### MATERIAL NOW AVAILABLE

The section now has ready for distribution two leaflets, a booklet, wall cards, etc. A textbook on electric railway advertising is in preparation and will be sent out as soon as it is off the press. This book tells how to advertise electric railways through every known channel. It discusses in understandable language newspaper advertising and publicity, car cards, leaflets, letters, company sections, public meetings and the many other mediums through which electric railways can sell their service to the public.

Pending the financing of the activities of the advertising section there has been a nominal charge for certain of the leaflets enumerated above, but when the financing plan is completed all the literature as well as service will be supplied gratis.

### Committee on Safety Holds Final Meeting

ON MAY 10 the Joint T. & T. and Claims Association Committee on Safety held its final meeting at association headquarters and approved a tentative draft of the report which is to be presented at the annual convention.

Those present were E. C. Spring, Lehigh Valley Transit Company, and R. E. McDougall, New York & Harlem Railroad, co-chairmen; H. O. Allison, Beaver Valley Traction Company, proxy for W. H. Boyce; A. J. Van Brunt, Public Service Railway, proxy for H. V. Drown; E. M. Walker, Terre Haute Traction & Light Company; W. F. Weh, Cleveland Railway, and L. H. Palmer, United Railways & Electric Company of Baltimore, sponsor for the committee.

The report speaks of the necessity of some concerted action in public safety work not alone by the street railways but in co-operation with other civic bodies

and local industries affected by the dangers existing in the communities.

The committee has mapped out a plan of co-operation whereby it is hoped effective results can be obtained to decrease the volume of accidents. That there is need of such an effort is reflected in the analysis of the replies to the questionnaire sent out by the committee.

### Large Attendance at Equipment Committee Meeting

THE equipment committee of the Engineering Association held a two-day meeting at association headquarters in New York City on May 4 and 5. The several sub-committees discussed their particular subjects on the first day and formulated recommendations which were made to the entire committee which assembled on the second day. Those present were Daniel Durie, West Penn Railways, chairman; W. S. Adams, the J. G. Brill Company; H. A. Benedict, Public Service Railway of New Jersey; R. H. Dalgleish, Capital Traction Company; James C. C. Holding, Midvale Steel & Ordnance Company; H. A. Johnson, Metropolitan West Side Elevated Railway; T. R. Langan, Westinghouse Electric & Manufacturing Company; F. H. Miller, Louisville Railway; E. D. Priest, General Electric Company; F. W. Sargent, American Brake Shoe & Foundry Company; C. F. Scott, General Electric Company; Karl A. Simmon, Westinghouse Electric & Manufacturing Company, and C. W. Squier, ELECTRIC RAILWAY JOURNAL. In addition to the regular members of the equipment committee, R. W. Steigerwalt represented C. F. W. Rys of the Carnegie Steel Company, and W. H. Phillips, R. D. Nuttall Company, and N. B. Trist, Carnegie Steel Company, were present at the invitation of the committee to assist in developing standards which the committee is considering.

Proposed additional standards for brake shoes, brake-shoe heads and brake-shoe keys were discussed at considerable length, and it was the general opinion that all dimensions except the radius for the face contour could be properly standardized at this time, this radius to be specified by the customers to suit the diameter of wheel used. The tread and flange contours as presented by last year's equipment committee appeared to be satisfactory, and this year's committee considers it inadvisable at this time to add to the list, as it thought the present number should take care of all requirements.

In regard to a standard wheel contour for cast-iron wheels, the committee felt that a progress report was all that could be presented this year as the thickness in flanges of cast-iron wheels differ to such an extent from steel wheels that it would necessitate changing other standards which had already been adopted. The proposed specification for carbon-steel wheels was discussed and changes were recommended which will bring this into agreement with that of the American Society for Testing Materials.

The sub-committee on car arrangement and design presented a very exhaustive written report for consideration. This is to be reviewed by various members before next meeting and reported on with any additional suggestions or comments.

The sub-committee on life of wearing parts has obtained satisfactory information from fourteen properties, and additional information is expected from six others. The equipment committee expects to include in its final report comments on shop practices and methods

which would aid in increasing the life of wearing parts as it is felt that greater publicity in regard to this matter is desirable.

The sub-committee on direct-current lightning arresters reported that a questionnaire had been sent out to 225 properties and so far replies have been received from but thirty-five. From the replies received it develops that lightning conditions appear to be the most severe along the Ohio and Mississippi Valleys.

Specifications for gears and pinions were discussed and it appears that the present association specifications can be brought into agreement with that proposed by the American Gear Manufacturers' Association without much difficulty, and an effort will be made to accomplish this. A revision of the specification for heat-treated axles and similar forgings is not to be attempted this year.

A report was presented showing the results of a test on wheels in service with a curved contour, and it appeared from present results that this type of contour tends to produce excessive wear on the flanges and is not desirable. A general outline was given of the report which is to be presented on the design of a typical shop building. Various suggestions were made for additions, and it is evident that this report will be very complete.

### Reports on Power Blocked Out

AT THE meeting of the Engineering Association committee on power generation, held in New York City on May 11, reports of sub-committees were discussed. Of the four topics assigned the following dispositions were made: A form of contract for purchase of power, progress report only; comparative costs of steam produced from different fuels, the preparation of a non-statistical summary of the factors involved was approved for inclusion in the report; progress on the super-power plan outlined by W. S. Murray at the 1920 convention, to be covered in a digest of the forthcoming government report, with suggestions regarding relation to electric railways; on multiple-unit automatic substation, a lengthy illustrated paper was tentatively approved for inclusion in the report.

The meeting was attended by A. B. Stitzer, New York City, chairman; L. D. Bale, Cleveland, Ohio; H. E. Davis, Utica, N. Y.; G. W. Saathoff, New York City; L. R. Shattuck, New York City, and H. B. Reynolds, New York City.

The container idea in transportation is making considerable headway in the steam railroad field. One of the latest developments is that which is taking place on the New York Central Railroad, which has experimented with the plan on a considerable scale and is now having manufactured a number of container equipments. The New York Central's "express" type of car for this service is 55 ft. long, so fitted that it can be incorporated in a standard passenger train. It carries nine steel containers, 9 ft. wide by 6 ft. long, with an inside clear height of 7 ft. 4 in., and a door 3 ft. x 6 ft. They are made as nearly burglar and fire proof as possible, are weather-tight and have a carrying capacity up to 3 tons each. They have wood floors and special attachments for convenient lifting and handling. The freight-train type is provided with containers of two sizes, 14 ft. and 7 ft. long, respectively, so that two large and two small of the removable sections fit on a 50-ft. freight car.



# News of the Electric Railways

FINANCIAL AND CORPORATE • TRAFFIC AND TRANSPORTATION  
PERSONAL MENTION

## Detroit Strike Averted

Amalgamated Officials Place the Wage Issue Squarely Before Men in That City

After a period of bickering lasting since last December, platform employees of the Detroit (Mich.) United Railway in Detroit voted on May 6 to adopt the Cleveland plan of wages offered by the Detroit United Railway which was rejected almost unanimously a week previous when a strike was voted. A new agreement to be enforced for one year will be arranged for between representatives of the men and company officials.

Besides the reduction to the new scale of 55 cents, 58 cents and 60 cents for Detroit city employees and to a new scale of 53 cents, 56 cents and 58 cents for employees in other southern Michigan cities, the terms of the new agreement vary from the old one regarding overtime. Under the new agreement time and one-quarter will be allowed for time over eight hours with time and one-half for overtime on Sundays and holidays. Under the former agreement time and one-half was paid for all overtime.

### FORMER DECISION REVERSED

The strike, which was first voted by the men to be effective on May 1, was postponed for one week when President Mahon made a seven-day agreement with the company with a view of again submitting the matter to the men. The president considered the proposed strike suicidal at the present time and a sacrifice of the union.

The vote followed a final mass meeting of the men employed on the Detroit city lines, held Wednesday evening, when the union leaders summed up the situation and without recommendations put the matter squarely up to the men to decide whether or not the proposed cut in pay would be accepted or a strike called. The further mass meetings had been called by representatives of the men because it was believed that the men had not clearly understood the situation when they voted to strike in case the company would not renew the existing agreement as in force for the last year.

The outlining of the industrial situation throughout the country by W. D. Mahon, president of the Amalgamated Association, and the presentation of facts concerning wage reductions in other cities, are reported to have had considerable influence with the men in bringing about the final result.

Many of the employees changed their attitude regarding the proposed wage reduction when it was announced by the

municipal street railway commission that the same wage scale as proposed by the Detroit United Railway or 55 cents, 58 cents and 60 cents an hour was to be put into effect on the municipal lines on May 1. The Detroit United men had counted upon having the moral support of the wage scale of 70 cents, 73 cents and 75 cents being continued on the city lines, but the announced cut on these lines was believed by both officials of the company and of the union to have been influential in averting the threatened strike.

The city employees had voted to follow the example of the Detroit United Railway employees in the event of a strike, and thus the company and the city were in the same position in the effort to reduce wages. The men also believed that the company was more thoroughly prepared for a strike than on previous instances.

The referendum was taken Friday to decide whether the men would strike, accept the 55-cent, 58-cent and 60-cent wage scale offered them by the company, or accept the 50-cent, 55-cent and 60-cent wage with the privilege of arbitrating the whole matter later.

## Small Town Folk Should Study the Case of Bowling Green

Folks in small towns where the existing electric railway is fighting for its life are admonished to beware by the Savannah (Ga.) Press lest they inherit a pile of junk. The lesson which this paper draws is taken from the experience of Bowling Green, Ky. The Press said recently:

Bowling Green, Ky.! That's the place! It doesn't look big on the map. Even in the census reports, it is said to consist of only 15,000 people.

But one in every three of those 15,000 owns an automobile. Nice little town. What?

Every automobile has at least two seats, some have four or five. Some seven. At a fair guess there is more than one seat each for every inhabitant of Bowling Green. So the whole town could go riding at one time if a strenuous effort were made.

Yet there are such things as pedestrians in Bowling Green. Even people that own cars walk sometimes. One of them recently walked into a street car. Possibly the motorman was dozing. In a town where every third man owns a car and the other two ride with him, there is not much left for a motorman to do. Anyway, the street car business was bad in Bowling Green and when the injured pedestrian sued the company and got a substantial verdict, the railroad magnates decided that the game was no longer worth the candle. So they threw up their hands and surrendered their cars, rails, crossties, franchises, etc., in satisfaction of judgment.

Of course, they might have gone before the Railroad Commission and obtained leave to raise their fares so as to get the amount of judgment out of their few remaining passengers. But the harder they squeezed, the fewer would be their passengers.

Whatever may have been the process of reasoning, the company quit. And the unfortunate plaintiff got, instead of a fat check, a pile of junk.

## Blanket Franchise Discussed Readjustment Essential to Preservation of Value of Railway to the Community

Preliminary discussion of the proposed blanket franchise submitted by the Virginia Railway & Power Company, Richmond, Va., was held recently by the committee on streets. Assistant City Attorney George Wayne Anderson and Directors Sayville and Trafford pointed to safeguards that must be thrown around the city's interests before such a franchise can be granted.

Chairman Puller advised the employment by the city of expert advisers in connection with the franchise discussion. The committee adjourned without action.

Colonel Anderson pointed out that the tentative draft now under discussion took many powers from the city and vested them in the state corporation commission. Director Sayville suggested, in lieu of the 8 per cent return asked for by the company, a sliding scale which would be an incentive to the company to give improved service, and upon which the rate might be fixed from time to time. If the city is to regulate the fare on a valuation, he thought a 6 per cent return would be sufficient to begin with, leaving the company the right to go higher if by better transit conditions it could then earn more, and that means should be provided for a reduction in fare if conditions justify it.

He urged that there must be an incentive to the company to give service, which it would not have on a guaranteed return on its investment as shown by a valuation. Mr. Trafford favored the employment of competent experts to make a valuation. Colonel Anderson questioned the wisdom of paying large sums for experts, and said that the committee, assisted by the department heads, could formulate a franchise acceptable to all. He would accept as the valuation for rate fixing the return made by the company to the Corporation Commission for taxation purposes.

## Wage Cut for Track Men

A wage reduction affecting the unskilled laborers on the Washington Railway & Electric Company, Washington, D. C., was recently put into effect. The cuts range from 20 to 40 cents a day and will mean a substantial saving for the company. The readjustment puts recently acquired track men, who were hired at a lower figure than those already in the employ of the company, on the same basis. The wage reduction does not affect skilled workers or trainmen.

## Men Ignore Union Officials' Warning

Strike in Akron Repetition of Old Story of Unreliability of Promises from Union

Eleven hundred employees of the Northern Ohio Traction & Light Company, Akron, Ohio, went on a strike Thursday, May 5, following the vote rejecting arbitration. The action was taken in the face of a threat by Patrick J. Shea, representative of the Amalgamated Association, that the charters of the four local unions on the lines of the company would be forfeited.

At the close of the first day of the strike, Mr. Shea went to Detroit to confer with W. D. Mahon and members of the executive board of the National Association. The executive board wired the presidents of the four locals to return the men to work and submit the question of the 15-cent wage reduction to arbitration.

Another vote was taken and the men refused arbitration for the second time. Mr. Shea then returned to Akron and held a conference with officials of the company. He asked if the company would agree to take all the men back to work and submit the wage reduction to arbitration. The company took the position that it would not deal with the radical leaders who were instrumental in calling the strike. The company also took the position that it would not agree to the appointment of the third arbitrator by the Governor of Ohio as was suggested. After a second conference the company agreed to take back all of the men if the 15-cent wage cut was accepted.

Mr. Shea and other representatives of the Amalgamated Association attended meetings of the men Sunday and Monday at which time a secret ballot was taken on the question of arbitration. The first local to vote was the men on the Akron-Bedford-Cleveland Division. These men voted for arbitration with the string attached that either the Governor of Ohio or Mayor Herman Witter of Canton was to name the third arbitrator. The company refused to accept the proposal on the ground that the Ohio Governor was prejudiced in favor of labor organizations and that Mayor Witter of Canton is a union official. That was the situation in the strike up to Monday night.

In the city of Akron, buses and automobiles are taking care of the traffic fairly well; in Canton and Massillon the situation is considerably worse and thousands of persons have been compelled to walk to and from their work.

The public attitude with the possible exception of Massillon, where there is a Socialist Mayor, is decidedly favorable to the company. In the city of Akron, the company has received hundreds of applications for work from local residents. In addition to that many applications have come from Cleveland, Canton, Massillon, Dover, Youngstown and other cities throughout northeastern Ohio.

After the return of Mr. Shea from Detroit nothing was said by the Amalgamated relative to the revocation of the local charters.

The striking employees planned to return to work Thursday, May 12, following an agreement reached on May 10. The strikers voted on May 11 to approve the settlement. The settlement provides the men shall return to work at the proposed reduction of 15 cents an hour, pending arbitration. It is agreed that the company shall select one arbitrator, the employees one, and the Governor of Ohio, together with a man named by the company, shall choose the third arbitrator.

The points to be arbitrated are the hourly wage rate to be paid after May 1; the minimum work-day hours on interurban divisions; the maximum work-day hours on interurban divisions and the merit and demerit system of discipline in regard to Akron, Bedford & Cleveland and the Akron, Kent & Ravenna divisions. The company has named Charles Currie as its arbitrator. The first session is to be held within five days and the finding of the board is to be retroactive to May 1.

## Men Reject New Orleans Wage Cut

The wage scale in the two-year contract under which the motormen, conductors, track workers, pitmen and car-house employees of the New Orleans Railway & Light Company, New Orleans, La., are now working, is to be materially reduced. Under the contract with the Amalgamated Association the scale may be readjusted on July 1, 1921, when the first year of the agreement expires, upon sixty days' notice given by either party to the contract.

Receiver O'Keefe, it has developed, sought to bring about a reduction in the pay of the men and to this end has addressed a communication to the union. Neither the union officials nor the receiver will discuss for publication the extent of the proposed wage cut.

At a meeting of the union employees held on May 6 the wage cut of the receiver, reported to be 13 cents an hour, was unanimously voted down.

If the proposed wage change be not effected by May 16, a provision in the contract stipulates that the wage question shall be submitted to arbitration, both sides to be bound by the findings of the arbitrators.

In discussing the matter the receiver said:

As the present wage scale was fixed last summer during the peak of high prices, and as the cost of living has been and is still coming down, I felt that it was proper to effect a revision of wages before July, 1922, unless the wage scale shall be readjusted by notice given not later than May 1, 1921. I have accordingly given the notice required.

I have to pay track and other common labor 43 cents an hour, while the city contractor is doing similar work with the same type of labor at 25 to 30 cents an hour.

Annual revision of wages is provided in the contract and upon failure to agree arbitration follows. The question, therefore, will be settled in an orderly manner as the parties have agreed upon in the contract.

## City Must Perform Purchase Contract

Federal Court Upholds Puget Sound Company's Appeal for Specific Enforcement of City Contract

In a memorandum handed down in the Federal Court at Seattle, Wash., Judge E. E. Cushman denies the motion of the city of Seattle to dismiss the suit of the Puget Sound Power & Light Company to enforce specific performance of the city's contract for the purchase of the railway system from the power company for \$15,000,000.

The complaint, which the city moved to have dismissed, would also prevent any taxpayers from suing the power company in the Superior Court, or in any court other than the United States Court of this district. The suit of the Puget Sound Power & Light Company was filed in February following a suit in the Superior Court brought by a number of taxpayers seeking to prevent the city from payment of gross revenues of the railway into a special interest fund, until the expenses of maintenance and operation had been paid.

The Power Company was not named as a defendant in this suit. It immediately brought suit in the Federal Court and obtained a temporary restraining order to prevent the city from using any of the revenue in the interest fund for any other purpose than the payment of interest on the \$15,000,000 bonds.

The taxpayers in the Superior Court obtained a temporary restraining order against the city treasurer that prevented him from paying the gross revenues of the line into the interest fund, but this was dismissed on hearing, and the money for the March, 1921, payment was forwarded to New York. On Feb. 21 the temporary restraining order was obtained by the power company in the Federal Court to prevent diversion of the gross revenue of the railway to any fund until after the interest on the bonds was paid. The affidavit of the city treasurer setting forth the payment of the money was used by the city in its motion for dismissal in the Federal Court case.

In his decision, Judge Cushman said:

There doubtless is a question as to the propriety of considering the showing made by the affidavit on a motion to dismiss the bill; but, if the cause has become entirely moot by the payment of the installment of interest due on March 1, in the interests of the public and the court it would be the latter's duty to consider such a question at any stage of the proceeding, however, presented or suggested, and if it is certain that only a moot question remains to dismiss the suit in order to devote the time and effort which would be required for its consideration to other public business.

Upon the motion to dismiss the defendants contend that there is an adequate remedy at law; that the questions involved have become moot because of the payment March 1, after the institution of this suit, of the interest then falling due. They further contend that no duty devolved upon the defendant city of Seattle to set aside and create a calendar month prior to March 1, a special fund to meet such interest.

Logically the last contention should be first considered for, if the defendants are right in that, it obviates any necessity for considering the other questions.

## Ohio Interurbans Announce Wage Cuts

Arbitration of the wage differences between trainmen and the Cleveland, Painesville & Eastern (two divisions) and the Eastern Ohio Traction Company (two divisions), two interurban companies operating into Cleveland, will begin within the next ten days. Both these roads now pay their men 55 cents an hour for the first three months' service; 58 cents an hour for the next nine months and 60 cents an hour thereafter. Some time ago trainmen on these two lines were notified that the financial condition of the roads and general business conditions would make it necessary for the company to reduce the trainmen 12 cent an hour in each classification. The men refused to accept the cut and arbitration is to result.

Motormen and conductors employed by the Ashtabula Rapid Transit Company have had their pay cut, starting on May 1, from 45 cents an hour for the first four months, 47 cents an hour for the next eight months and 60 cents an hour after the first year, to 40, 42 and 45 cents an hour.

No definite settlement has as yet been reached between the Cleveland, Southwestern & Columbus Railway and the trainmen, who have so far opposed the company's announced wage reduction of 20 per cent.

## Legislative Committee Finds Railroad Commission Efficient

The investigating committee of California Senators and Assemblymen, organized to report upon the recent complaints against the State Railroad Commission, has submitted its findings. Though some errors were found to have been made by the commission the committee claims the commission's record of efficient service is an enviable one. It is believed now that all misunderstandings have been cleared and co-operation between the people and the utilities and the utilities and the commission will be the result of the public hearings during the months of January and February at Sacramento, San Francisco, Los Angeles and other important centers of the State where protests against the commission were very strong.

In its finding the committee lays special stress upon the effect on the public mind of the abrogation of contracts existing at the time of the passage of the public utilities act. Though many contracts were abrogated by the commission the committee finds that the commission acted wisely and that failure to enforce the theory would have worked a hardship on certain consumers, for it is a sound principle that "all" consumers receiving the same class of service should be compelled to contribute alike to that fair return." The committee believes that a standard form of contract for service should be formulated by the commission to contain a provision showing that rates therein set forth are subject to change by the commission.

The committee further recommends that all literature relating to the sale and advertising of the stocks, bonds, etc., of any public service corporation be supervised by the commission and that nothing in that literature be permitted which can be construed by the public as being an indorsement or guarantee of the securities by the commission. The committee finally recommends that the commission more strictly enforce the penalties provided by the public utilities act and of the rules of the commission more particularly with regard to overcharges for extensions and service.

## Navy Secretary Guest of Britton I. Budd

When Edwin Denby, Secretary of the Navy, went to Chicago on May 2 for the purpose of inspecting the Great Lakes Naval Training Station, he and party were taken to the naval station from Chicago and return on a special train of the Chicago, North Shore & Milwaukee Railroad as the guest of Britton I. Budd, president.

The train carrying the party was



BRITTON I. BUDD AND SECRETARY OF THE NAVY DENBY AT GREAT LAKES NAVAL TRAINING STATION

made up of three diners with a car of boy scouts attached. Luncheon was served en route and the cars then converted into chair cars for the remainder of the north-bound ride and the return trip.

Among other prominent men in the party were Captain D. W. Wurtzbaugh, commandant Great Lakes Naval Training Station; General John A. Le Jeune, commanding officer United States Marine Corps; Mayor William Hale Thompson; C. R. Francis, Commissioner of Public Works, Chicago; W. H. Finley, president Chicago & Northwestern Railroad; Fred Upham, treasurer Republican National Central Committee, and Wythe Denby, brother of the Secretary.

On returning to Chicago in the evening the Secretary attended a reception in his honor at the Union League Club which was conducted under the direction of Mr. Budd as general chairman of the club's public affairs committee and John Benham, vice-president of the International Register Company, as chairman of the sub-committee on army and navy entertainment.

## Co-operative Benefit Association Organized

Employees of the International Railway, Buffalo, N. Y., have organized the I. R. C. Co-operative Benefit Association, patterned after the Co-operative Welfare Association of the Philadelphia (Pa.) Rapid Transit Company. Herbert G. Tulley, president of the International, which now is being operated by the Mitten Management, Inc., says a number of employees recently asked the company to assist them in obtaining insurance protection under the group plan, and out of the suggestions presented the management has caused the organization of the new association.

Every employee of the company who has been in service six months or more is eligible to membership and will have the opportunity to obtain a life insurance policy for \$1,000 and to participate in the sick benefits. The dues are \$1 a month and for every dollar paid in by the members the company will contribute an equal amount.

President Tulley explains the principal object of the new organization is to promote true co-operative effort between the management and employees. The affairs of the association are to be managed by a board of trustees consisting of members elected from the various departments of the company. One-half will be chosen by the members and the other half appointed by the company.

## Wages Cut Pending Arbitration

Pending a wage settlement before a board of arbitration the East St. Louis & Suburban Railway and the East St. Louis Railway on May 1 reverted to the wage scale that was in effect prior to May 1, 1920.

The receivers of the Alton, Granite City & St. Louis Traction Company, which includes the Alton city lines, have notified the employees that wages will revert on May 15 to the scale in effect prior to May 1, 1920. The number of employees on all the lines mentioned is about 550.

The interurban employees, who have been receiving 59½ cents an hour, are reduced to 53 cents. They have asked for an increase to 85 cents. The city line men have been receiving 70 cents an hour, and are reduced to 46 and 50. They have requested an increase to 90 cents.

The board of arbitration is composed of C. E. Smith for the companies and Hunter B. Keigh for the employees, with the third arbitrator still to be selected.

**Third New York Wage Arbitrator Chosen.**—Former Supreme Court Justice Arthur E. Sutherland, Rochester, has been chosen third member of the board of arbitration to settle the differences which have arisen over wages between the New York State Railways and its employees.

### Toledo Feeling Its Way

Commissioner Wilfred E. Cann at Toledo received a rebuff at the hands of the City Council when it refused to eliminate the Indiana line as he had requested in order to relieve the city system of one costly parallel line.

Progress is expected to be made on a power rate and in wage negotiations within the next two weeks. The wage contracts expired on April 1. They have not been renewed, but the platform men have not received any cut in wages.

During April the railway revenues fell off more than \$300 a day over the March revenues and they were more than \$300 a day less than February revenues.

The stabilizing fund fell below the fare increase mark when reports were made on May 10. However, the ordinance provides that the fare shall remain at the 6-cent level for six months.

### West Penn Wages Reduced

Wages on the Coke Region, McKeesport and Allegheny Valley Divisions of the West Penn Railways, Pittsburgh, Pa., have been reduced 5 cents an hour effective May 1. The wages formerly paid were:

First three months.....	64 cents
Next nine months.....	68 "
Thereafter.....	70 "

The scale of wages, effective May 1, reduces these figures to:

First three months.....	59 cents
Next nine months.....	63 "
Thereafter.....	65 "

On the Kittanning, Leechburg and McDonald Divisions the rates were reduced 9 cents an hour. The rate formerly paid was:

First three months.....	63 cents
Next nine months.....	67 "
Thereafter.....	69 "

The new rate which went into effect on May 1, reduced these figures to:

First three months.....	54 cents
Next nine months.....	58 "
Thereafter.....	60 "

The reduction in wages was accepted by the trainmen without comment.

### Consistency, Thou Art a Jewel!

A situation has arisen in Chicago which places the city administration in an embarrassing position. Some months ago the City Council in furtherance of its fight on increased fares took the stand that the local railway companies had violated the terms of the ordinance under which they operate and that they no longer have any legal right to exist. More recently the city became interested in a movement to have a "pageant of progress" in Chicago late in July, the exhibits to be placed on the municipal pier. The Chicago Surface Lines has a loop on an upper deck of this pier. Mayor Thompson, as a citizen and as president of the pageant association, applied to the Public Utilities Commission to compel the railway to remove these tracks to a lower level. Inasmuch as this would involve an expenditure of about \$200,000, the Sur-

face Lines resisted this petition. It points to the fact that Mr. Thompson as Mayor claims the company is operating without authority, while as president of the pageant association he had to recognize the company's existence. The commission will pass on the matter at an early date.

### New Interurban in New Orleans

Negotiations that have been going on for some time between prominent property holders of the St. Bernard parish and business men of New Orleans, La., with large interests in industrial plants located in that section, culminated recently in the announcement that the Orleans-Kenner Interurban Electric Railway will be extended to St. Bernard parish. The road now operates between New Orleans and Kenner, La., in Jefferson parish.

The purpose of the extension is to give the Orleans-Kenner line, as the road is known locally, the right to traverse New Orleans through to Shell Beach in St. Bernard parish, a distance of about 30 miles. This will make a 46-mile line from Kenner in Jefferson parish to Shell Beach, St. Bernard parish.

H. K. Johnson, builder of the Orleans-Kenner electric interurban, who has recently resumed active management of the property, will undertake the construction of the proposed extension. Rights of way and the necessary financial assistance have been pledged by Mr. Johnson. A committee has been appointed to map out a route and secure the balance of the rights of way and to apply formally to the City Commission Council for a franchise for the new line.

### Receiver Urges Municipal Ownership

If the city does not purchase the property of the Ashtabula (Ohio) Rapid Transit Company, the road will, by fall, be sold for junk and the tracks torn up. This is the opinion of Charles Currie, Cleveland, one of the receivers of the company. Mr. Currie, in company with A. R. Raymer, Pittsburgh, the other receiver, appeared before City Council recently and said he did not make the statement about scrapping the line with the idea of driving the city to purchase the property, but he gave this as his honest opinion of what will be done in case the deal that is proposed with the city does not go through.

Mr. Currie drew attention to the fact that the company had reduced the selling price of the property \$81,000 from the price of \$296,000 at which it was offered to the city at the time the deal for it was first contemplated, and after which the electors of the city voted a \$350,000 bond issue to buy the road and procure additional equipment and make necessary repairs. The last proposal of the receivers is that they will dispose of the property for \$215,000.

### Paving Costs Reduced in New York

One of the important bills passed by the New York Legislature at the last session and signed by Governor Miller amends Section 178 of the Railroad Law in relation to paving and repair of streets. The change consists of the following insertion: "but nothing contained in this section shall require any street railroad corporation to make pavements or repairs over openings made in the streets by any person, municipality or corporation other than such street railroad corporation, for any purpose other than the pavement or repavement of the street." Under this provision the electric railway companies will not be required to lay pavements or make repairs to pavements over openings made in the streets by any person, municipality or corporation for the construction or repair of sewers, water mains or any other similar sub-surface work.

### Matthew Brush Testifies in Investigation

The special committee of the Massachusetts Legislature, which is investigating alleged irregularities in the passage of street railway legislation in 1918 and 1919, has been granted an extension of time to May 16, for filing its report. All witnesses have been heard, practically every member of the two Legislatures having appeared voluntarily. Matthew C. Brush, former president of the Boston Elevated Railway, testified, as did also several bankers and brokers.

Mr. Brush was easily the star witness. With that same engaging frankness and refreshing good nature which so often in the past has disarmed hostile and unjust criticism of the railway management, Mr. Brush recited in great detail the steps leading up to the enactment of the so-called public control bill of the Boston Elevated. He told of his own strenuous efforts to convince the members of the Legislature of the necessity for relief for the elevated, and as far from denying having met and talked with legislative members at clubs and at private homes, he said it was his job to talk to everyone, from newsboy to Governor, anywhere he could get hold of them. He strenuously denied, however, that any money, gifts or inducements of any kind were offered to influence votes. He knew of no members speculating in street railway stock at that time, and was positive that if they did so it was not on the suggestion or under the influence of the railway management.

As a result of the questioning of former legislators it was found that out of several hundred members only about twenty-five or thirty were involved in the stock speculations, some of these having purchased Boston Elevated securities, others Massachusetts Electric, and a few "took a flyer" on both. They were about equally divided between Republicans and Democrats, and many

of them were opponents of the legislation in question, and voted against it. During the whole course of the testimony no witness showed any connection between the railway managements and the stock speculations of the legislators, nor was there any allegation of improper influence or inducements offered by the railway managements.

Speculation is rife in political circles as to what recommendations the committee will make in its report as to possible action to be taken against those men who bought railway stocks and then voted on bills affecting their financial status. It is generally believed that the committee may turn the evidence over to the District Attorney for such action as he may see fit. Some elements are demanding that members should be expelled who speculated in the stocks and are still in the Legislature.

### Provision Recommended for Municipal Ownership

Without a dissenting vote, the sixteen members of the committee on municipal and parochial affairs of the Constitutional Convention, now sitting in Baton Rouge, La., has favorably reported an ordinance which gives the city of New Orleans the right to own and operate all of its public utilities, expropriate them and conduct them under municipal ownership. Commissioner Paul Maloney, of the Public Utilities Committee, expressed his pleasure on learning that the measure had been approved by the committee and remarked that in case of its adoption by the convention, means would be available to the city of New Orleans to call municipal ownership to its aid whenever the need arose for such action.

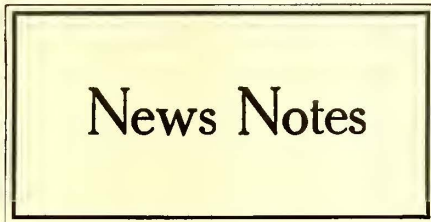
### Be Sensitive to Suggestion If You Would Rise

Words of advice from octogenarians on "how to live long and happily" usually fall on deaf ears. But a suggestion on how to be of greater service from the "man higher up" on the job is not always to be spurned. Such a piece of literature is "The Thing That Will Count Most If You Want to Be Promoted," a reprint of an interview with Samuel Insull, president of the Commonwealth Edison Company, Chicago.

In a simple and interesting way Mr. Insull tells of his own early experience. A perusal of it will encourage the countless number of employees who enter business with little or no equipment and will give those who are endowed with special qualities and accomplishments an insight into how high they can mount. To do more than what is expected of you is no new rule for success. Conductors and motormen of railway properties who do a trifle more than their fellow employees in the way of courtesy and are a bit more solicitous for the safety of the patrons eventually find themselves in line for positions higher up.

### Wages Reduced in Grand Rapids

Wages for trainmen of the Grand Rapids (Mich.) Railway were reduced 10 cents an hour according to the terms of the new agreement recently signed which expires May 1, 1922. The rates were formerly 56 cents an hour for the first three months, 58 cents for the next nine months and 60 cents an hour thereafter with 5 cents additional for safety car operators. The new scale now in effect is 46 cents, 48 cents and 50 cents, with 5 cents extra for safety car operators. Overtime work will be paid for at the rate of 10 cents an hour additional, with a minimum overtime pay of one hour. The open shop principle was continued as a clause of the agreement. The contract in effect last year made it compulsory that trainmen should work not to exceed six days in any one week. In the new agreement this is made optional with the employee, who may now work seven days a week, permitting his one day a week off to accumulate so that he may take his time off all at one time, or he may work continuously without any time off.



## News Notes

**New Franchise Drafted.**—The City Council of Galesburg, Ill., recently agreed upon a franchise ordinance for the Galesburg Railway, Lighting & Power Company. The company has been operating for some time now without a franchise because the City Council could not agree on a new one. The franchise as now drafted provides for extensions of car line and includes some agreement for service on the part of the company over the track which the city proposes to build to Lincoln Park.

**Wages Undisturbed Pending Negotiations.**—The officials and members of the Amalgamated at Pittsburgh, Pa., on April 28, provisionally accepted a proposition from receivers of the Pittsburgh Railways that they continue in effect present wages and working conditions for one month while negotiations are continued. The wage scale expired at midnight on April 30. The extension will continue it in force until June 1. Conferences have been proceeding between the receivers and the men's wage scale committee, the working conditions being under discussion. The wage question has not been brought up, neither side indicating to the other that it had anything to suggest.

**Mayor Urges Municipal Ownership.**—Mayor Marshall of St. Joseph, Mo., has come out for municipal ownership of public utilities. In his recent annual message the Mayor said: "Our citizens should bear in mind that we can buy approximately \$14,000,000 of public utilities and our taxes be not raised

a cent. The last Legislature gave us the right to assess 20 per cent of our valuation to buy public utilities and the expenses and interest charged directly against the utility and not the city, so that we can, if the electors and your honorable body desire, take over the street railway, the gas company and waterworks, and I believe it is time to start on these improvements and acquisitions. We should do it now and not let it drag."

### Programs of Meetings

#### New England Street Railway Club

The New England Street Railway Club will hold its next meeting in Hartford, Conn., on May 18, in a joint session with Company Section No. 7 of the Connecticut Company. It is planned to have the Boston members take the 9.15 a.m. train from the South Station, members at Worcester, Springfield and other places being picked up en route.

An informal luncheon will be served between 12 and 2 p.m. at the Weatherfield carhouse in Hartford. At 3:30 p.m. a short talk on "Appraisals" will be given by E. Irvine Rudd, chief engineer of the Connecticut Public Utilities Commission, followed by a moving picture exhibition.

The dinner will be held at 6:30 p.m. at the Hartford Club. The subjects of the talks have not been announced, but Richard T. Higgins, chairman of the Connecticut Public Utilities Commission, and Lucius S. Storrs, president of the Connecticut Company, have promised to speak.

#### Southwestern Electrical & Gas Association

At the Street & Interurban Railway sessions of the Southwestern Electrical & Gas Association Convention, which will open on May 18 at Galveston, Tex., notice of which was made in the ELECTRIC RAILWAY JOURNAL, issue of May 7, subjects of great interest to the industry will be discussed in an informal way. They are as follows:

Modern Fare-Collection Methods and Their Relation to Accident Prevention, Alvin Dixon, superintendent El Paso (Tex.) Electric Railway.

The Desirability of the Universal Adoption of a "Front Entrance" for all Cars, Both Single and Double-truck, as a Means of Safer and Quicker Service to the Public, C. O. Birney, inventor of the "Safety Car."

The Inspection of Cars on a "Mileage" Basis Instead of on a "Time" Basis, F. J. Bennett, Houston (Tex.) Electric Company.

The Urgent Necessity of Greater Economy and Efficiency in Car Lubrication, Walter Silvus, superintendent of equipment, Texas Electric Railway.

The Economy and Efficiency of the Substitution of "Ball" or "Roller" Bearings for the Ordinary "Friction" Bearing, J. T. Porter, Northern Texas Traction Company.

General Track and Roadway Problems of the Minute, A "Round-the-Table" Discussion for all Attending.

The Advantages of the "Bow" or "Pantograph" Trolley Collector over the Ordinary Trolley-Wheel, A Manufacturer.

A Practical Experience in the Use of "Telephone Dispatching" on City Lines, W. W. Holden, superintendent of transportation, San Antonio Public Service Company.

Where It Is Economical to Substitute Steel Trolley Wire for Copper or "Composite" Trolley Wire, L. E. Delf, Electrical Engineer Northern Texas Traction Company.

Modern Car-Painting Methods, Round-the-Table Discussion.

Training the Supervisory Forces, the Chairman.

# Financial and Corporate

## Missouri Tax Upheld

### U. S. Supreme Court Rejects Plea of Interurban with Respect to Method of Fixing Tax Value

The contentions of the St. Louis & East St. Louis Electric Railway in its case against the State of Missouri in the matter of a tax levied on its property were denied by the Supreme Court of the United States in an opinion handed down on May 2.

The electric railway, known as the Bridge Electric Company, was the owner in 1906 of 0.865 of a mile of electric railway constructed upon and extending from the easterly to the westerly end of the Eads Bridge. In that year the Missouri State Board of Equalization valued the portion of this railroad which was within that state at \$186,019 and levied a tax upon it for state and local purposes. The Bridge Electric Company contested the tax and sued to recover the amount collected, charging that the tax is invalid on the ground that it constitutes a direct and unconstitutional burden on interstate commerce.

#### \$500,000 PER MILE

The state statute provided that in valuing railroads for taxation the State Board of Equalization should determine the total value of the entire property in the state, tangible and intangible, of each company and that from this total it should deduct the value of all its tangible property and then "enter the remainder upon the assessment list under the head of 'all other property.'"

The Board of Equalization valued all the rolling stock, poles, wires and cash of the Bridge Electric Company at \$32,630; the road-bed and superstructure at \$5,000 per mile and "all other property" at \$500,000 per mile, making a total value per mile of \$537,630.

There were 0.346 of a mile of the track in the State of Missouri and this proportion of the total value per mile, amounting to \$186,019 (of which \$173,000 was included under the item "all other property"), was the amount on which the disputed tax was levied.

It was not contended that this valuation was unreasonable in amount but only that the property of the company which was valued as "all other property" consisted solely of its franchise to conduct interstate passenger traffic over the interstate bridge and that, therefore, the tax so far as levied on the valuation placed on the property is concerned, is a direct tax and burden on the right to engage in interstate commerce and thus unconstitutional.

The Supreme Court states, however, that "the stipulation on which the case

was tried does not sustain this contention."

In concluding the court says:

We cannot doubt that the contracts we have described, which very plainly gave to this short-line of railway much of the value as a going concern which led the company to bond and capitalize it at \$1,000,000 and the board to value it at approximately one-half that amount, must have been taken into consideration by the board and that, therefore, the contention that the tax was levied exclusively upon the franchise to do an interstate business is not sound and must be rejected.

The opinion of the court was delivered by Justice Clarke.

## Large Saving on Labor in Kansas City

Continuous and steady improvement in earnings, under the receivership, is reported for the Kansas City (Mo.) Railways. Despite bad weather and a definite amount of unemployment gross revenue is maintained at a substantial level compared with former similar periods, and there is a constantly bettering relation between revenue and expenses.

One item that offers interesting opportunity for comparison is that of labor cost. The company is operating the largest number of cars in its history, 720 on the high peak of schedules, with 900 fewer employees than a year ago. Several developments make this condition possible. Changes in the power plant, including installation of an ash carrying equipment, reduce the labor requirement there. In the shops 100 fewer men are employed than a year ago; last year the shop was loaded to capacity in the repair and overhauling of cars, and equipment was put into first class shape.

## More Representative Name Chosen

The directors of the Monongahela Valley Traction Company, Fairmont, W. Va., have voted to change the name of the corporation to Monongahela Power & Railway Company and not the Monongahela Traction & Light Company, as noted in the *ELECTRIC RAILWAY JOURNAL* for May 7, page 874.

Officers of the company state that the change is brought about by the fact that the power and lighting departments of the concern have been growing by leaps and bounds not only along the lines of the interior, where great power houses have been built and the company is moving large quantities of coal and other freight, but on the lines in Parkersburg and along the interurban as well. The change of name it is believed will be to the interest of the company as it relates to the chief department of the corporation, and it will improve the market for the securities of the company.

## End of Receivership Urged

### City Says Pittsburgh Railways Is Rebuilding Lines Out of Earnings at Ten-Cent Fare

George N. Munro, special solicitor for the city of Pittsburgh, Pa., in charge of utility legislation, declares that the Pittsburgh (Pa.) Railways during the year 1920 earned more than \$2,000,000 over and above operating requirements and that the surplus fund, swelled on account of excessive fares, has been used for improvements and betterments instead of protection for creditors. A report by him to this effect urging the end of the receivership was read on May 3 before the City Council and Mayor Babcock.

The report recommends that the property be formally returned to the bondholders in view of the fact that the Public Service Commission valuation of \$62,500,000 is less than the \$64,000,000 of outstanding securities bearing interest. The conclusions drawn by Mr. Munro are based on statements of earnings and expenditures obtained on April 1 from the receivers and on engineers' estimates and estimates made by the receivers before the Public Service Commission.

According to Mr. Munro after an allowance of \$15,986,000 for expenses, which included \$985,000 for normal depreciation and an excess of \$1,900,000 for wages over 1919, figured on the budget basis by engineers, the company received income ranging from \$600,000 to more than \$2,000,000 in excess of all expenses and a 7 per cent return depending upon the valuation accepted as a basis for figuring the earnings. The valuations on which this computation was made were taken as the figure of \$48,000,000 by the city's engineer, \$70,000,000 for the company's engineers and \$62,500,000 found for the Public Service Commission.

Mr. Munro contended that the property was being rebuilt out of earnings and at the expense of the car rider whereas much of the work done was really a charge to capital. He argued that while it was desirable that the property be properly maintained, the public, if it was to pay for rehabilitation as well as for transportation, should have something to say about the disbursement of the excess money.

The reply of the receivers characterized the deductions made by Mr. Munro as "palpably erroneous and at best irrelevant." They contend that such improvements as were made were carried out in the interest of the car riders at the behest of the court and in pursuance of the court's policy that the service furnished by the receivers should be regarded as the paramount purpose in their administration. They characterized as lacking in every element of truth the charge by Mr. Munro that instead of using this fund to take care of unsecured creditors, for whose protection this receivership was invoked, they are building up the property out of earnings and thereby unduly con-

tinuing the receivership. According to the receivers "it is evident that no policy or action is possible to meet the divergent views of the various city officials and that no determination can be reached except by adjudication." Further the receivers say that the city has unnecessarily delayed the valuation proceedings. The receivers recite that in March, 1920, the State Public Utilities Commission fixed the valuation of the company at \$62,500,000, but that the city waited about six months, or until near the expiration of the time for filing an appeal from the decision of the commission, before its representatives took an appeal to the Superior Court. Argument was set for April 15, 1921, but as that date approached a postponement was asked and granted over the protest of the receivers.

On May 6 a conference was held with members of the Council at which the receivers were asked to attend to discuss the possible reorganization of the railway. At that conference a letter was read which had been written by Mr. Munro to Solicitor Pritchard. In this communication Mr. Munro said that the receivers "instead of coming back at us with equally conclusive evidence content themselves with making a general denial." He confessed himself disappointed at the answer of the receivers, and was "inclined to think that their reply is a studied effort to confuse the issue." "In short," said Mr. Munro, "you will notice they made no effort to give any items to substantiate their reply." He also says the company is in error with respect to the delay by the city in the proceedings before the court.

**Briefs Filed in Lease Case**

The city of Philadelphia has filed a brief in the Supreme Court of that State setting forth the position taken by the city in appealing against a decision of the Superior Court to the effect that the Public Service Commission has no authority to inquire into the rentals paid by the Philadelphia Rapid Transit Company to the underlying concerns. The printed briefs were filed by the city preparatory to the argument, in which the same contentions are raised as were made in the Superior Court. Briefs on behalf of the Philadelphia Rapid Transit Company and its subsidiaries were also prepared for filing.

The Rapid Transit Company is paying to the underlying companies rentals amounting to approximately \$10,000,000 a year for the use of their franchises. The city maintains that the Public Service Commission has the right to ascertain whether or not these rentals are excessive, whereas the Superior Court has ruled that inquiry into this matter is not one of the commission's lawful functions.

The city bases its appeal on the dissenting opinion of Justice Keller, who did not agree with the majority of the Superior Court in deciding in favor of the underlying companies.

**\$1,000,000 Increase in Gross Prospects Are that North Shore Road Will Merit Materially by Decreasing Cost**

An increase of \$955,748 in gross operating revenue of the Chicago, North Shore & Milwaukee Railroad is shown in the annual report for the year ended Dec. 31, 1920. Despite this very favorable showing made by the company in securing new business, the net operating revenue as compared to the previous year increased only \$46,164 and the net income \$1,172. The accompanying consolidated income account shows the comparison with the year 1919 for the various items.

	1920	1919	Increase
Gross operating revenue.....	\$4,193,669	\$3,237,921	\$955,748
Operating expenses.....	3,229,048	2,319,464	909,584
Net operating revenue.....	\$964,621	\$918,457	\$46,164
Taxes.....	151,746	163,101	11,355*
Operating income.....	\$812,875	\$775,356	\$57,519
Miscellaneous income.....	10,332	17,879	7,547
Gross income.....	\$823,207	\$773,235	\$49,972
Fixed charges.....	390,196	341,396	48,800
Net income.....	\$433,011	\$431,839	\$1,172

\* Decrease

The consolidated income statement for the years 1916 to 1920 inclusive forms an interesting exposition of the manner in which the business of a railroad may be built up by bettering the physical property and giving high grade service.

The report reviews briefly the operating conditions pertinent to the financial statement and also the physical improvements made in the property during the year. It was pointed out that the increase in the gross operating revenue was almost all absorbed by the increased cost of labor. The improved service resulting from the operation of safety cars on the city lines of Waukegan, Ill., brought an increase in revenue on those lines of 39 per cent, and for the first time they are showing a tendency toward becoming self-sustaining. The rate of fare on both the Milwau-

\$800,000 was for new equipment contracted for in 1919. During the year the company authorized and issued \$1,500,000 of ten-year 7 per cent sinking fund notes secured by first mortgage bonds, of which \$707,400 were issued in 1920. The company paid off and cancelled \$600,000 of collateral notes and \$72,000 of equipment notes and purchased and cancelled \$27,000 of the ten-year sinking fund notes.

Among the physical improvements mentioned in the report are the construction of 9,982 ft. of new sidings at sixteen locations in Illinois and Wisconsin; the construction of 4,500 ft. of new roadway, paved with brick on concrete base, and paralleling the old road-

way, in order to make room for the double tracking of the line at this point; the widening and ditching of cuts and placing of 4,358 lin.ft. of drain tile; the replacement of 65-lb. rail on ten miles of single track with 80-lb. rail; the renewal of 20,000 ties; the placing of 47,000 cu.yd. of ballast; the surfacing of 26 miles of single track; the rebuilding of ten miles of right-of-way fence; and the erection of a new substation building at Ravinia for which there was purchased and installed an automatic controlled 1,000-kw. rotary converter.

During the year an Employees' Mutual Benefit Association was formed. The members of this organization will receive a sick benefit of \$6 a week and a death benefit of \$300. Each member pays \$1 a month and the company contributes 50 cents a month per member

	1916	1917	1918	1919	1920
Operating revenue.....	\$1,157,191	\$1,751,373	\$2,899,975	\$3,237,921	\$4,193,869
Operating expenses.....	714,887	1,114,512	1,856,038	2,318,464	3,229,048
Net operating revenue.....	\$442,304	\$636,861	\$1,043,937	\$918,457	\$964,621
Taxes.....	66,038	95,680	185,822	163,101	151,746
Operating income.....	\$376,266	\$541,181	\$858,115	\$755,356	\$812,875
Miscellaneous income.....	6,208	4,858	9,470	17,879	10,332
Gross income.....	\$382,474	\$546,039	\$867,585	\$773,235	\$823,207
Fixed charges.....	237,996	266,580	332,056	341,396	390,196
Net income.....	\$144,478	\$279,459	\$535,079	\$431,839	\$433,011

kee city lines and the Waukegan city lines was increased from 5 cents to 6 cents during the last half of the year. On Sept. 1, 1920, the interstate rates on the interurban lines were increased from 2.5 to 2.7 cents per mile and on Nov. 1, 1920, to 3 cents per mile. On Sept. 17 an increase of approximately 33½ per cent in freight rates became effective.

The amount expended during the year for additions and betterments and for reconstruction was \$1,338,079, of which

toward the support of the association, which now has a membership in excess of 500.

An enlargement of the safety organization and the development of a fine spirit of co-operation on the part of all employees not only in accident prevention work but in closer observance of rules and a desire to give the public the best of service is pointed out as one of the features of the year's progress. There were held 134 meetings of employees to promote safety.

## \$4,936,976 Fixed as Lynchburg Value

Elements of Value Include Reproduction Cost New Dec. 31, 1916, This Cost Appreciated 10.8 per Cent, Actual Cost of Additions During War Period, and Developmental Costs

A. L. Drum & Company, consulting engineers, Chicago and Philadelphia, representing the Lynchburg Traction & Light Company, Lynchburg, Va., filed with the Corporation Commission of the State of Virginia on May 10 a final report on the cost of reproducing and developing the properties of the Lynchburg company. The valuation was made in accordance with the principles set forth by the Corporation Commission in its opinion of March 18, 1921, acknowledging the application for increase in light and power rates.

**T**HE report comprises (a) the cost to reproduce the physical property as of Dec. 31, 1916, based on average prices prevailing from 1912 to 1916 inclusive; (b) cost to reproduce the physical property as of Dec. 31, 1916, based on 10.8 per cent normal appreciation to Feb. 1, 1921; (c) actual cost of additions to property from Jan. 1, 1917, to Feb. 1, 1921, and (d) developmental costs.

The basis of the valuation as prescribed by the commission excluded the use of abnormal war prices except actual expenditures made under such conditions. The opinion of the commission provided that "to the probable fair 1914 reproduction value may reasonably be added a normal appreciation for the years since that time. Had there been no war there would have been a gradual rise in prices due to increasing costs of production. Thus we have a basis which allows the company the benefit of appreciating values in normal times, based on pre-war values plus actual additions made at war prices."

The engineers, in conforming to this ruling, assumed that the average unit prices prevailing for the five-year period from 1912 to 1916 inclusive would represent fair average prices prevailing as of June 30, 1914, and applied such to the Dec. 31, 1916, inventory of the physical property. The appreciated value was derived by increasing the 1912-1916 valuation by 10.8 per cent, this being 1.57 per cent per annum compounded for six years and seven months. It was derived from price indices on about 340 commodities for the sixteen years from 1900 to 1915 inclusive. The trend of prices over this fairly uniform period of rising prices indicated an in-

crease of 1.57 per cent per year compounded, and was held to represent a fair index of normal appreciation in values. A chart showing the price indices of commodities and the derivation of the 1.57 per cent is attached to the report.

The treatment of developmental costs is of particular interest as it embraces three main subdivisions: (a) Expenditures for obsolete equipment and construction; (b) cost to unify the system; (c) losses during the early years of operation. The total developmental costs as reported equaled about 16 per cent of the valuation of the physical property.

The expenditures for obsolete equipment and construction comprised the depreciated value of the property at the time of supercession and was subdivided as between the railway, electric light and gas departments. The developmental costs under the railway department represented superseded horse car lines, power stations, car houses and original electric cars. Under the electric light department the developmental costs included superseded power station equipment, transmission lines and street lighting equipment destroyed prior to the end of its useful life due to consolidations and changes in the art. Reliable data covering superseded property in the gas department were unavailable and as that superseded was known to have had a normal life no claim was made for developmental costs in this department.

The cost to unify the system represented an estimate of the cost incident to the creating and consolidating of the various thirteen companies comprising the present Lynchburg Traction & Light Co. It was derived after an in-

vestigation of such records of the companies as were available.

The losses during early operation represented the deficit of return on the investment during the early period of operation up to the time the business had become established on a paying basis. A summary of the cost of reproducing and developing the property as of Feb. 1, 1921, is given in the accompanying table.

### TWENTY MILES OF RAILWAY

The accrued depreciation as reported represented the amount of existing depreciation due to wear and use as determined by inspection and measurement in the field. It is not based on theoretical depreciation due to age or obsolescence. The amount of accrued depreciation for the railway department is given as \$140,203, for the electric light department as \$108,640 and for the gas department as \$52,635, making a total of \$301,478.

The Lynchburg Traction & Light Company owns and operates the street railway, electric light and gas utilities in Lynchburg and vicinity, the street railway consisting of 19.25 miles of single track, thirty-nine passenger cars and three service cars. Power is obtained from the Ruesens hydro-electric station and the Blackwater Creek steam station, both of which jointly serve the railway and electric light departments. The generating and converting equipment devoted exclusively to the railway department aggregates 1,650 kilowatts capacity, all of which is located in the Blackwater Creek steam station.

The Ruesens hydro-electric station, located on the James River about 4½ miles north of Lynchburg, is equipped with three water wheels with a generating capacity of 2,500 kw. The dam is of cut stone masonry with concrete crest, about 425 ft. long, 32 ft. high and develops a net effective head of 22 ft.

### ONE-THIRD POWER CAPACITY FOR RAILWAY

The Blackwater Creek station is a steam station of 2,000 kw. capacity, not modern in construction, and is utilized as an auxiliary plant in connection with the Ruesens hydro-electric station, to which it is connected by a new double transmission line. There are 5,335 residence, commercial and power meters in service, and 731 municipal series incandescent street lamps are connected to the system. Of the total amount of power generated, approximately 36.4 per cent is used in the operation of the railway.

The gas plant consists of three benches of inclined coal gas retorts, six retorts to each bench, also two Lowe water gas sets, with the necessary condensers, scrubbers, purifiers and residual equipment. The plant capacity is about two and one-half million cubic feet of gas per day. There is one 50,000 cu.ft. relief holder and one 200,000 cu.ft. storage holder. The distribution system consists of 41.28 miles of gas mains, with 3,752 meters connected.

SUMMARY OF COST OF REPRODUCING AND DEVELOPING THE LYNCHBURG PROPERTY AS OF FEB. 1, 1921

	Railway Department	Electric Light Department	Gas Department	Total
Physical property:				
Estimated cost to reproduce the physical property as of Dec. 31, 1916, based on average prices, years 1912-1916, inclusive.....	\$1,328,998	\$1,714,295	\$582,806	\$3,626,099
Estimated cost to reproduce the physical property as of Dec. 31, 1916, based on 10.8 per cent normal appreciation to Feb. 1, 1921.....	1,472,530	1,899,438	645,749	4,017,717
Actual cost of additions to property Jan. 1, 1917, to Feb. 1, 1921.....	49,476	73,224	112,464	235,159
Total cost to reproduce the physical property as of Feb. 1, 1921.....	\$1,522,000	\$1,972,662	\$758,213	\$4,252,876
Developmental costs:				
Expenditures for obsolete equipment and construction.....	\$134,503	\$95,770	.....	\$230,273
Cost to unify system.....	73,794	94,328	\$31,878	200,000
Loss of interest during operation.....	93,654	119,715	40,456	253,826
Total developmental costs.....	\$301,951	\$309,813	\$72,334	\$684,099
Total cost of reproducing and developing the property.....	\$1,823,951	\$2,282,476	\$830,548	\$4,936,976



## New Rhode Island Company Selects Directors

Former United States District Attorney Harvey A. Baker has been nominated by Mayor Gainer of Providence, R. I., to represent the public on the board of directors of the United Electric Railways, which is soon to operate the electric railways now run by the Rhode Island Company. The election of Mr. Baker and eight other directors was recommended by the joint reorganization committee.

The other proposed directors are Zenas W. Bliss and George H. Newhall, appointed by Governor San Souci and confirmed by the Senate; Ralph S. Richards, representing the Rhode Island Hospital Trust Company, representing the holders of the general mortgage bonds; Edward B. Aldrich, Frederick S. Peck, Richard B. Comstock, Harold J. Gross, and J. Cunliffe Bullock, representing the stockholders.

At present and for the purpose of effecting a temporary organization there are five stockholders of the United Electric Railways. These will be called together soon, and are expected to confirm the choice as directors of the five men nominated to represent the stockholders.

## \$4,100,000 Value Placed on Interurban

The Public Service Commission of Pennsylvania in the case of the city of Erie vs. the Buffalo & Lake Erie Traction Company has found the fair value of the property of the railway to be \$4,100,000. It holds that upon this sum the company is entitled to a fair return over and above its operating cost and annual maintenance. The decision of the commission is to the effect that lines of street railway track that have been abandoned and are no longer used or useful in the public service should not be included in any fair value for rate-making purposes.

The commission further holds that a power plant which is no longer used by a street railway but is leased to an electric company at an annual rental is a potential asset and will be included in a fair value for rate-making purposes. In its reproduction cost estimate the commission made allowance for overhead on real estate, depreciation and working capital. Bond discount was not allowed. The commission further said that the market value of stocks and bonds issued by an interstate corporation covering property both within and without Pennsylvania afforded no proper criterion as to the value of the property for rate-making purposes within the State.

The commission also reiterated the fact that it is well-settled law that an active going concern rendering efficient service has a greater value than an idle one and that going concern values should be considered and included in determining the fair value of a utility for rate-making purposes. Finally the commission recommended the issuing of

school tickets good between certain hours and the sale of book tickets at a reduced rate.

## Indebtedness Limitation Removed

In regard to the recent action by the Minneapolis (Minn.) Street Railway in removing its limit of indebtedness beyond \$1,200,000, W. D. Dwyer, counsel for the company, explains:

The limitation was put on when the stockholders had no idea of the size to which their business would grow. It would have been impossible for the company to live up to it and continue in business. No stockholder ever objected to the directors disregarding it, and if one had there is no doubt that the courts would uphold the company. It was just a dead letter—one of those laws that are never lived up to—and we decided to get rid of it.

## Movement in Interest of New York Security Holders

An organization known as the Public Utility Security Holders' Association has recently been formed in behalf of the 55,000 holders of the securities of the electric railways in Greater New York. Headquarters have been established at 605 Fifth Avenue, New York, with Ernest P. Fredericks as managing director. A uniform plan of assessment consisting of 50 cents per \$1,000 bond or 5 cents per share of stock has been made, with a minimum assessment of \$1. The advisory board at present consists of ten members who are men of standing in their business and professional life and representative of the great majority of security owners. The members are E. H. Hicks and Henry Franciscus, Brooklyn; Bernhard Blitzer, Gustav Kimpel, C. A. Fairchild, S. H. P. Pell and Theodore Koupal, New York; E. S. Gardner, Springfield, Mass.; Wallace Pyle, Jersey City, N. J., and E. G. Hamersly, Philadelphia, Pa.

Mr. Fredericks has been identified in the past with campaigns conducted in the interest of traction security holders in Boston and in Canada.

## Dayton Roads All Losing Money

That the railway of Dayton, Ohio, are facing bankruptcy was announced at a conference called to consider plans to bring about more favorable conditions among the companies there.

Harry P. Clegg, president of the Oakwood Traction line, advanced the claim that not one of the local companies was making operating expenses. The Oakwood line, which extends from East Oakwood to Daytonview, is said to have been running behind steadily for five or six years. The Dayton line has paid no dividends for four years and has met expenses by borrowing money, and the Peoples' Company, owners of several divisions, paid its last dividend out of its surplus.

Representatives of the various companies informed the City Commission that under existing conditions there was no use continuing operations. However, no plea was made for an increase in fares and it is understood there will be none.

# Financial News Notes

**Preferred Stock Dividend Resumed.**—A quarterly dividend of 1½ per cent has been declared on the outstanding \$2,300,000 of preferred stock of the Cumberland County Power & Light Company, Portland, Me., par value \$100. This is the first dividend on the preferred stock since May, 1918, when 1½ per cent was paid in scrip.

**Interurban and City Accounts Adjusted.**—A settlement of accounts between the Cincinnati (Ohio) Traction Company and the Interurban Railway & Terminal Company has been approved in the Common Pleas Court. Under the agreement the traction company secures title to the former interurban tracks and overhead wires in the former villages of Pleasant Ridge and Kennedy Heights. The traction company is to pay the Interurban \$5,000 in cash and cancel \$49,000 of receiver's certificates issued by the interurban in favor of the Cincinnati Traction Company.

**New Interest in Purchase by City.**—The public utilities committee of the Board of Supervisors of San Francisco, Cal., has agreed to recommend that \$15,000 be made immediately available for the use of City Engineer M. M. O'Shaughnessy in making the necessary study of the United Railroads properties and recommending a price at which the city can afford to take them over. Reasons urged upon this committee by various organizations for this action are: the need of (1) one fare with a universal transfer, (2) the elimination of four-track conditions on Market Street, and (3) the very large majority by which the Charter Amendment No. 30 was carried at the last election. (This amendment provides for the purchase of public utilities on the installment plan.)

**Sale Ordered by Court.**—Under an order issued by Judge E. B. Museout of the Forty-fourth District Court at Dallas, Tex., the properties of the Standard Traction Company, Dallas, were ordered to be sold at public outcry on May 3 to satisfy a judgment for \$5,000 in favor of C. C. Farmer and wife. The Standard Traction Company owns the railway serving the Mount Auburn and Parkview additions to the city of Dallas, now leased to the Dallas Railway and being operated by that company. J. H. Power is president of the Standard Traction Company. The company was organized by the real estate firm that placed these two additions on the market. It has offered to deed the property to the Dallas Railway with the condition that through service be maintained from the business district to these additions.

# Traffic and Transportation

## Jitney Ordinance Works Well

Regulatory Measure in Kansas City Restricts Autos to Routes Where There Are No Car Lines

Elimination of jitneys from the streets of Kansas City, Mo., having electric railway tracks has had many beneficial effects since the ordinance became effective on April 7. The ordinance had been passed previously by the City Council, but on April 7 an order from the Circuit Court of Jackson County released a temporary injunction secured by the jitney operators, and new schedules and routes for jitneys were established.

The most striking effect of the new plan of "co-ordinate" rather than competitive operation of transportation facilities is in the relief of traffic congestion. The removal of nearly 400 jitneys that had constantly operated on street car streets is an obvious relief to traffic congestion, particularly notable in rush hours.

The improvement in the accident record directly attributable to the elimination of jitneys from tracked streets has several significant bearings. Not only is service maintained at higher efficiency but there is a noticeable reduction in repair and wreck crew costs, and in the many expensive concomitants, including litigation of accidents.

### RAILWAY SERVICE INCREASED

A second public benefit resulting from elimination of jitneys from tracked streets is the marked increase in street car facilities made possible by gain in patronage. The company had promised that more cars would be operated when jitneys were assigned to streets not having tracks. Sixty-five cars were added to service on April 7; and all these have since been retained.

The number of jitneys retired has been almost exactly the same as the number of cars added. The increase in number of cars was about 10 per cent; while the increase in revenue has been about 5 per cent—this disparity resulting from the fulfillment of promise to improve service over all lines at all hours of the day.

The Public Service Commission and other regulatory bodies set the standard for service in Kansas City at 640 cars as of July, 1917; the company is now operating 720 cars.

The justice and logic of the railway company's position regarding jitneys are being recognized more clearly as time passes. The company had not been fighting the jitneys as direct competitors, it had not sought or asked their complete elimination. The company had suggested that jitneys constitute a subsidiary transportation facility. The railway contended that the jitney,

being a supplementary service, should be so operated as to fulfill its function for the public benefit to the best advantage. It should be required to build its prestige and business independently, in the service to which it was best adapted and most useful, and not to secure its business directly from the railway sources of business, nor in direct competition with the railway. The company did not agitate against jitneys, nor use publicity to put jitneys in bad repute.

Before the regulatory ordinance became effective, many citizens seemed to consider that the city officials were about to destroy the jitney service, from motives of hostility. The Council and the city officials patiently bore the criticism. It is said that the receivers,

representing the public as well as the company, were able to present the matter effectively to the city officials.

About fifty jitneys discontinued operations immediately upon the ordinance becoming effective. Many others, while operating on the prescribed routes, are not maintaining schedules in non-rush hours. Even in rush hours, the schedules of the jitneys are not always followed.

The regulatory ordinance was attacked by jitney operators, and a temporary injunction secured against its enforcement. Upon final hearing, Judge Hall of the Circuit Court of Jackson County, at Independence, Mo., declined to make the injunction permanent. The jitney organization has appealed to the Supreme Court from Judge Hall's decision. Judge Hall concluded his finding with these words:

The streets of the city, under the statutes, belong to the city and are exclusively under its control. No one can use the streets for any public purpose, like the transportation of passengers for hire, without the city's consent—neither a railway company, nor a jitney owner, nor anyone else.

## Communities Back Fare Increase

Suggestive Ideas Are Contained in Rate Appeal to Which Railway Won the Support of Communities Affected

Passenger rates were increased on April 20 by the Kansas City, Clay County & St. Joseph Railway, Kansas City, Mo., pursuant to an order issued by the Public Service Commission of Missouri on April 2. The increase was 25 per cent. It applies to commutation as well as other passenger rates. The remarkably small amount of "legal proceedings" involved in securing the adjustment constitutes an interesting phase of the event.

THE application, evidence, opposition and support regarding the increased rate were all presented in a frank, business-like and "uncontroversial" manner. All the cards were laid on the table by both sides, with the result that there was no contention against the rate increase as a whole. The only opposition to the application appeared in the form of a request that additional elements of service be installed—elements which the company had planned and was ready to establish.

As the proceedings developed, the minor items of controversy as to rates and service were adjusted by representatives of the different communities on the basis of more equitable distribution of a recognized higher cost of operation than was provided for under the old rate.

Preliminary to making the application for the increase Robert P. Woods, vice-president and general manager of the railway, discussed with officials of communities served the road's service and the approaching necessity for improvements. A careful survey was also made of opinion as to the road's service as viewed by the communities, and public officials were reminded of the expenditures that must soon be made. The attorneys for the communities in any proceeding regarding rates were shown data as to costs of maintenance and operation and of net revenue, and were invited to examine the company's

records. The exhibits upon which the company was going to base its application for an increase were shown in advance of the hearing and convinced the officials that higher rates were necessary if their communities were to receive a continuance of the service.

As a result of these conferences each community, recognizing the need of the higher rate, bent its efforts to "protecting its rights," so that its service would not suffer, and it would not bear a disproportionate part of any increase.

Mr. Woods prepared the application himself—going to the heart of the matter. Seventeen exhibits showing valuation and operation data were also prepared and presented by him. The application as he wrote it contained scarcely 1,000 words. Four short paragraphs gave the data on the history of the company and its passenger rates. One paragraph asked straightforwardly for a 2½-cent rate (a 25 per cent increase), commutation rates to be advanced in the same proportion. Another paragraph gave the reasons for the request—that the company had charged only 2 cents a mile for seven years; that this rate had been inadequate for several years; that costs had risen greatly in the period; that all surplus had been put back into the road, and that heavy expenditures would have to be made to keep the property in first-class condition. The application was filed on Feb. 25.

A statement prepared by Allen G. Hoyt, president of the company, presenting the general subject of electric line rates, was filed separately, in support of the brief application.

#### ONLY ONE HEARING HELD

One hearing was held by the commission. This was conducted at Kansas City on March 11. Five witnesses testified in behalf of the application—Mr. Woods and four bankers. The bankers were called to testify as to the rate of return proper for an electric railway. Colonel C. F. Enright, former bank commissioner of Missouri, one of these witnesses, said the rate of return should be not less than 8 per cent; W. P. Fulkerson, banker, St. Joseph, Mo., testified that he would not want to invest in applicant's property on an 8 per cent basis because he could do better with other securities. W. T. Kemper, chairman of the board of the Commerce Trust Company, the largest bank west of Chicago, testified that nothing less than 8 per cent would be a reasonable return and that he did not expect interest rates to decline during the next few years. Mr. Hoyt, vice-president of the National City Company, New York, said that electric light and power securities, the most attractive in the public utility field, are selling to net more than 8 per cent, and that returns on electric railways, not in great public demand, should be materially above 8 per cent. There was no testimony or argument against the 8 per cent minimum return. No further evidence or testimony was presented by the company.

The "protests" regarding the application did not in any instance attack the principle of an increase, nor question either the exhibits of the company or the conclusions drawn by the company from these exhibits. Rather were the arguments by representatives of communities confined to an effort to attain an equitable distribution of the cost of operation among the communities.

#### COMPANY NOT INTERESTED IN METHODS

One community, for instance, sought to secure retention of its former commutation rates, and another, which had not had such commutation rates, claimed discrimination. Other communities responded that it would not be fair to require through traffic to bear a disproportionate rate for the special benefit of an intermediate station. The company made it plain that "if the commission will provide us adequate means for carrying on the necessities we have outlined, we do not care how the commission arranges the details, and as long as there is commutation rate in one place, we don't know why there should be discrimination." As a result further suggestions were made by the communities themselves toward equalizing both rates and service over the company's lines.

Incidental to the rate hearing—as

an element in the costs of operation and ability to increase service under higher rates—various communities asked improvements. As a compromise among the communities, a limited train was agreed upon for Excelsior Springs which should make one stop, at Liberty. This item of increased service, together with the commutation rate asked for Excelsior Springs, was included in the order of the commission.

The order, issued on April 2, increased passenger rates from 2 to 2½ cents a mile; increased existing commutation rates of 1.3 cents a mile to 1.625 cents a mile (the same proportion, 65 per cent, of the regular rate as before).

In reviewing the exhibits and testimony the commission pointed out that the increase of 25 per cent to 2½ cents per mile, if granted, would provide a return for all purposes in excess of 8 per cent—as the figures indicated 8.2 per cent. The commission stated, however, that this rate of return might be reduced in fact through the establishment of the commutation rates and other items of service not previously among the expenses.

The new rates went into effect on April 20 without any objection having developed over the matter or complaint being heard.

The whole proceeding reflects a gratifying co-operation of the public with company and commission for the attainment of maximum permanent service from the utility. The representatives of the communities seem to have sought such results concerning rates and orders on other subjects as would bring about the most satisfactory operation of the railway for the interests of all concerned.

#### Five-Cent Fare Re-established

Keokuk, Ia., went back to a 5-cent fare the early part of April of this year under its original franchise ordinance which has about ten years to run. The validity of such franchise contract was a point involved in the case presented to the Supreme Court of Iowa in the suit of the Ottumwa Street Railway against the city of Ottumwa. A decision was made at that time holding that such a clause was not binding on the railway, and pending a decision on rehearing, the City Council of Keokuk, last December, granted the Keokuk Electric Company an increase to 7 cents. Rebate slips were issued, to be redeemed if 5-cent fares were established. Apparently with the belief that the convening of the Iowa Legislature would probably result in the introduction and passage of measures of relief for the utilities and that the new court which came in on Jan. 1 might reverse the court's former decision the Ottumwa Railway applied to the Supreme Court to dismiss the appeal. This was granted and as a result the City Council of Keokuk rescinded its action in regard to the 7-cent fare and ordered the company to cash the rebate slips and re-establish the 5-cent fare.

#### Rehearing on Fort Wayne Fares

Robert M. Feustel, president of the Indiana Service Corporation, Fort Wayne, Ind., states the company will not oppose the rehearing on the city's petition to secure a reduction in rates. This rehearing was recently granted by the Indiana Public Service Commission. The present fare is 7 cents, four tickets for a quarter. The city is seeking a 6-cent rate, nine tickets for 50 cents. Mr. Feustel says:

In presenting the case before the commission, the city estimated that the minimum increase in passengers hauled in 1921 over 1920 would be 500,000 and that the probable increase would be 2,000,000 passengers. Up to date this year there has already been a decrease of more than 500,000 passengers below the figure for the same period last year.

In his statement giving the reasons for asking for a rehearing the city attorney alludes as follows to the matter of maintenance:

The city of Fort Wayne is desirous that proper service be maintained, but it believes it unjust to do an abnormal amount of maintenance work, rebuilding of lines and such in a very short time, thus taxing the present car riders more than their just burden, to satisfy the desire of the present operator to get his Fort Wayne lines in the very best possible condition at the earliest possible moment.

#### Hartford Indorses One-Man Car

The Common Council of Hartford, Conn., on April 25 authorized the Connecticut Company to operate one-man cars in the city indefinitely. A resolution was adopted suspending for an indefinite period that portion of the Tucker agreement, so called, of 1894, providing that there must be a crew of two men on each car. The Connecticut Company's petition, embodied in the resolution as adopted, asked that the restriction be lifted "until such time as the proper authority of the city of Hartford shall notify the Connecticut Company six months in advance of its desire to cancel such suspension."

Except for this action by the Council, the Connecticut Company would have been compelled to withdraw its one-man cars from lines within the city of Hartford on May 1. By a vote on Sept. 22, 1919, the Council gave permission for the operation of the one-man cars until May 1, 1921, explaining that "the General Assembly of the State may pass legislation concerning electric railways and by that time the electric railway situation in the State may be clarified."

The Aldermen, acting on an unfavorable report from the joint committee, had then refused to authorize the operation of the one-man cars for an indefinite period. The problem was solved, however, when the Council adopted a resolution by which the company was empowered to operate passenger cars with one man as operator within the city limits until May 1, 1921. The resolution provided that "at the expiration of this permission, if no further permission is given, *ipso facto* said provision in said agreement (the Tucker agreement) revives and becomes in full force and effect."

**Cleveland Engineers Testify at Trenton Hearing**

The Board of Public Utility Commissioners of New Jersey is hearing the application of the Trenton & Mercer County Traction Corporation for an increase in fare from 7 to 10 cents. The commission was asked to grant the 10-cent rate on a temporary basis, and later after considering the valuation of the company make a permanent rate.

Peter Witt, Cleveland, Ohio, testified that the company was being saved from financial ruin through the Trenton City Commission withholding its approval of jitney operations. Mr. Witt favored a 5-cent fare between the hours of 8 a.m. and 4.30 p.m., with seven tickets for 49 cents or 10 cents cash during the rush hours. Mr. Witt said that the large two-man cars could be operated as one-man cars, and that he was opposed to jitneys because the burden of taxes was placed on the railway.

Charles H. Clark and Lawrence P. Crecelius, Cleveland, undertook the construction of a theoretical trolley line, competing with the Trenton Company. They said that such a line could be built more economically than the Trenton line. Mr. Crecelius said the company was losing money in supplying power for the cars from the Trenton power house on Lincoln Avenue. He suggested three substations for the distribution of power purchased from some other company. Mr. Clark said that the company's power plant was about 75 per cent efficient.

Victor B. Phillips, Cleveland, was a witness at the hearing on May 10.

**Use of One-Man Cars Upheld**

The bill introduced in the Massachusetts Legislature to prohibit the operation of one-man cars has been "given leave to withdraw." This bill was fostered by the street cartmen's unions and was strongly backed by the American Federation of Labor. At numerous public hearings every conceivable argument was brought up in support of this proposed legislation against the principle of one-man car operation. The strongest line of attack was on the ground of alleged danger to the public.

While refuting these charges of danger to the public, the railways made the weight of their case on the legitimate economy of the principle of one-man operation, and demonstrated conclusively to the legislators that had it not been for one-man cars many more miles of railway track would have been added to the already large abandonments in that state. Several managers showed that the passage of any anti-one-man car bill would result in the immediate suspension of service on many lines.

The failure of the labor interests to convince the Legislature of the existence of any alleged danger to the public is especially significant, because in Massachusetts hundreds of former two-man cars, double as well as single-truck, have been converted to one-man

operation without any of the usual standard manufactured safety devices. The Massachusetts Department of Public Utilities requires only that some well-constructed device be installed accessible to passengers which will permit anyone inside the car to apply the brakes and unlock the doors in an emergency.

**Be Wise and Advertise!**

The Mitten management is "talking to the public" through the medium of advertisements in the Philadelphia *Public Ledger*. Emphasizing the fact that it deservedly has the support and confidence of the 10,000 employees of the Philadelphia Rapid Transit, it desires similar co-operation on the part of the public.

One of these advertisements says that fifty-two separate companies were originally started to operate street cars in Philadelphia, and each one was authorized to collect a separate fare. The roads were all gradually brought together in order to make possible one

**Only 3 per Cent of Boston Traffic Pays Five-Cent Fare**

Edward Dana, general manager of the Boston (Mass). Elevated Railway, testifying before the New Jersey Board of Public Utilities, in the fare case of the Public Service Railway, outlined the policies of the Boston trustees and the results of their experiments with reduced fares.

Local riding has increased approximately 78 per cent on the Malden and Everett lines of the company, where a 5-cent fare for short hauls has recently been instituted. This is an experimental service instituted by the trustees for the purpose of endeavoring to regain the short-haul traffic lost since 1917 by the various increases in fares from the original 5-cent rate to the present 10-cent fare.

The decrease in total revenue passengers since 1917 has been 40,000,000, or about 12 per cent, according to Mr. Dana's testimony. The theory of the management, he explained, is that this loss took place not in the regular daily

**Mitten Management Talks to the Public**

*Investment and Return of P. R. T. and Underlying Companies*

As at	June 30,	1903	Capital Paid In	Mortgages Bonds, Etc	Total Paid In	Rentals and Dividends	Interest Etc	Total Return	Per Cent Annum
"	"	1903	\$56,611,380	\$ 9,373,569	\$ 67,984,949	\$6,429,446	\$ 670,018	\$ 7,099,464	10.44
"	"	1904	64,596,060	9,315,444	73,911,504	6,429,321	671,412	7,100,733	9.61
"	"	1905	67,583,700	10,394,278	77,977,978	6,729,341	713,634	7,442,975	9.54
"	"	1906	68,461,440	20,416,611	88,878,051	6,729,438	1,106,584	7,836,022	8.82
"	"	1907	77,343,520	21,260,794	98,604,314	7,039,026	1,142,123	8,181,149	8.30
"	"	1908	81,909,532	21,207,372	103,116,904	7,047,651	1,141,556	8,189,207	7.94
"	"	1909	86,436,055	24,875,039	111,311,094	7,347,661	1,214,203	8,561,864	7.69
"	"	1910	86,436,055	26,019,039	112,455,094	7,356,786	1,337,468	8,694,254	7.73
"	"	1911	86,438,500	27,659,019	114,097,519	7,358,342	1,429,026	8,787,368	7.70
"	"	1912	86,438,500	29,432,019	115,870,519	7,365,980	1,460,387	8,826,367	7.62
"	"	1913	86,440,255	33,945,317	120,385,572	7,364,939	1,640,345	9,005,284	7.48
"	"	1914	86,440,255	39,167,817	125,608,072	7,364,635	2,008,192	9,372,827	7.46
"	"	1915	86,440,255	41,052,811	127,493,066	7,364,997	2,089,759	9,454,756	7.42
"	"	1916	86,440,255	40,594,811	127,035,066	7,964,443	2,139,062	10,103,505	7.95
"	"	1917	86,452,965	39,760,811	126,213,776	8,864,670	2,108,346	10,973,016	8.69
"	"	1918	86,453,040	39,142,811	125,595,851	8,865,181	2,097,999	10,963,180	8.73
"	Dec. 31,	1919	86,453,040	42,653,867	129,106,907	8,863,206	2,251,736	11,114,942	8.61
"	"	1920	86,453,040	42,841,819	129,294,859	7,366,490	2,336,620	9,703,110	7.50

\$30,000,000 of this money, paid in by P. R. T., made possible the building of the Market Street "L," which the Philadelphia Real Estate Board says has more than doubled values of adjacent real estate in West Philadelphia. The real estate owners, by increased values, and the City of Philadelphia, by increased taxes, have benefited from the building of the Market Street "L," much more than the P. R. T. stockholder.

The increase in city assessments proves that \$129,294,859, if invested in city real estate during this period, would have brought much greater returns to the investor. What inducement can be offered the investing public to secure from them the new money now required for further transit development?

PHILADELPHIA RAPID TRANSIT COMPANY  
T. E. Mitten, President.

PHILADELPHIANS ARE INFORMED OF MITTEN MANAGEMENT BY THIS TYPE OF AD

big operating company which would carry a passenger throughout the city for a single fare. Under these conditions the company is anxious to co-operate with the people to the end of supplying a car service of which they will have every reason to be proud and which will meet the ever-expanding need of the city.

"President Mitten's new departure in inaugurating a series of talks to the public on the problems, purposes, and hopes of the Philadelphia Rapid Transit Company is an excellent one," says the *Public Ledger* editorially, "and there is nothing more surely calculated to inspire confidence and insure co-operation than a frank understanding between the public utility and the public served by it. If, therefore, Mr. Mitten shall persevere in his announced intention to tell the plain facts about transit matters, he will perform a service to the corporation he serves so well."

tidal traffic from the suburbs to the business center, but rather in the local rides in outlying communities; also possibly to some extent people living within the mile and a half zone from the center have been walking since the advent of higher fares. It is with the desire to regain some of this short-haul traffic without infringing on the revenue received from the regular 10-cent fare traffic that the trustees are trying out various 5-cent fare lines.

At present, he stated, 2.9 per cent of the total revenue passenger traffic of the system is being carried for a 5-cent fare, the balance all paying 10-cent fares. The 78 per cent increase in local riding in Malden and Everett is considered encouraging, but it must be further increased to 100 per cent to equal the revenue received from the local 10-cent fares before the 5-cent fare went into effect. Mr. Dana also said that the failure of the town au-

thorities of Malden to aid in removing a competing jitney line may cause the abandonment of the experiment in that locality. They have also found, he said, that the three short 5-cent lines operating into the business district of Boston are doing a large business, with car mile earnings above the average for the system, but they have also taken traffic from the 10-cent lines.

### Jersey Argument Closed

The appeal of the Public Service Railway, Newark, N. J., for a 10-cent fare is now formally before the Board of Public Utility Commissioners of that State. Concluding argument by counsel was made at Newark on May 5.

George L. Record, special counsel for Jersey City in charge of the case for the municipalities, charged the company with operating inefficiently. This was the basis of his whole argument.

Edmund W. Wakelee, counsel for the company, said that the 10-cent fare was the only rate that could afford adequate relief. It was difficult, according to him, to argue a case where there was so little to argue about. He said in conclusion:

The statements and estimates of the company are not in dispute. The controlling principles of law are fixed and certain. That relief is necessary is incontrovertible, and the 10-cent rate is the only rate that can afford adequate relief. The company, therefore, confidently appeals to this board to dispose of this pending application in such a manner as to meet this critical situation and to effect substantial justice so far as it is possible to do so.

### New Orleans Hearing Delayed

After a conference between State Attorney-General A. V. Cocco and H. Genes Dufour, representing the New Orleans Railway, a motion was made by the Attorney-General for a continuance on the hearing of the application of the New Orleans Railway & Light Company for an injunction restraining the state from beginning legal proceedings against enforcement of the 8-cent fare. Judge Foster, of the Federal District Court, granted the continuance asked for till May 16, but upheld the temporary restraining order.

Announcement is made that the city of New Orleans will delay its answer to the injunction proceedings instituted against it by the receiver of the New Orleans Railway & Light Company until after the adjournment of the Constitutional convention. It will be recalled that there is now pending in the Federal Court an order restraining the city from interfering with the receiver in the collection of an 8-cent fare.

In the order of Judge Clayton, who issued a temporary injunction upon the request of the receiver, the city had twenty days from April 21 within which to file an answer.

City Attorney Kittredge is a delegate to the Constitutional Convention now in session and postponement was asked for by him after a conference had with H. Genes Dufour, counsel for the receiver. This action will, of course, delay the hearing thirty days.

## Transportation News Notes

**Interurban Fare Rise.**—Passenger fare rates on the Fort Wayne, Van West & Lima Traction Company, operating between Lima, Ohio, and Fort Wayne, Ind., will be increased 10 per cent beginning June 1.

**Beeler Rerouting in Effect.**—Rerouting under the Beeler plan was begun on the system of the Kansas City (Mo.) Railways on May 1. The ordinance providing for the readjustment had been passed by the City Council, and was approved by the Public Service Commission, with little controversy or opposition. In the first few days of operation of the lines on which rerouting was begun there was no complaint, and there was the expected improvement in efficiency and economy. Rerouting will probably cover a period of several months.

**Coach Company Says "Thank You."**—The Fifth Avenue Coach Company, New York, N. Y., recently published its "Thank You" to the public in appreciation for various letters of commendation received from its patrons. The letters, some of which are reprinted in this pamphlet, relate a real experience with a courteous conductor or with a skillful driver. A practical example of recognition for accommodating service on the part of its employees is shown in the company's recent announcement of an increase in pay which the men will hereafter receive.

**Wants Two-Cent Transfer Charge.**—The increase in fare to 6 cents, with twenty tickets for a dollar and a 1-cent transfer charge, is not helping the financial condition of the Indianapolis Street Railway, its officials say, and when the thirty-day probation period has been completed on May 18 and the company again appears before the Indiana Public Service Commission it will ask for an additional 1-cent transfer charge. The general industrial depression, with its consequent unemployment, has decreased the number of passengers riding the cars daily to such an extent that the increase in rates is not holding the company even. Last year an average daily haulage was about 300,000 passengers. This year there are many days when less than 250,000 are riding. The company will ask authority to charge 6 cents, with twenty tickets for a dollar and 2 cents for a transfer.

**Jitneys Use Metal Tickets.**—The Milwaukee Bonded Carriers' Association, an organization of jitney men operating in Milwaukee, Wis., has recently commenced selling aluminum fare checks at the rate of seven for 50 cents. Checks purchased from any of the operators will be good for one ride

on any jitney run by a member of the association. The new rate will be a reduction of 1 cent from the old jitney cash rate of 8 cents. The new cash rate will, however, be 10 cents. The railway rate is 7 cents cash, or eight tickets for 50 cents. Jitney operation in Milwaukee is regulated by state law and is under the supervision of the Wisconsin Railroad Commission. Permission must be obtained from the commission before a jitney can be operated in Milwaukee, and even after such permission has been obtained the commission continues to supervise the operation and sees that the routes assigned to an operator are adhered to and that he follows its regulations in other ways.

**A Practical Application of Selling Transportation.**—The Georgia Railway & Power Company, Atlanta, Ga., has capitalized some of the ideas expressed by President Arkwright in his recent address, "Don't Hate Your Customers," which was printed in the *ELECTRIC RAILWAY JOURNAL* for April 23, 1921. Two cardholders are to be installed in each car reading: "This car in charge of Conductor — and Motorman —." Each trainman will be furnished a slide bearing his name, which is to be inserted in the holder while he is on duty so that his customers may become familiar with his name and address him by it. The company is also endeavoring to teach the men the advantages of doing business in a way that tends to introduce a little personality and urges the men to greet their customers with a good morning or good evening as the case may be when they board their car. While the company does not make this the subject of a general order it is suggested to improve the standard of work.

**Sustains Seven-Cent Fare.**—The Pennsylvania Public Service Commission has refused the application of the Pennsylvania-Ohio Electric Company for permission to charge a 10-cent fare in New Castle, and has ordered a continuation of the 7-cent cash fare with six tickets for 40 cents and twenty tickets for a dollar with free transfers. The Sharon & New Castle Street Railway, which operates the local railway in New Castle, recently filed a new tariff of rates with the commission. The commission believes in a community like New Castle where there are many "short-haul" riders it would be a mistake to put a straight 10-cent cash fare into effect. The commission says in the event of an advance in the cash fare the short riders would be the ones to refrain from using the cars, and the company, in order to obtain the maximum amount of revenue and render the public service it is under obligation to perform, should make every effort to retain its short riders. It is also said "the policy of seeking to obtain a given amount of revenue by the rendition of service to a reduced number of patrons at a higher rate is not in harmony with proper utility service regulation and is also inimical to the accommodation and convenience of the public."

# Personal Mention

## Promotion for R. H. Wyatt Old-Time Operator Becomes Superintendent of Louisville & Interurban Railroad

Richard H. Wyatt, general freight and passenger agent of the Louisville & Interurban Railroad, Louisville, Ky., since 1910, has been promoted to the newly created position of general superintendent of the interurban system, which is a subsidiary of the Louisville Railway. Mr. Wyatt and Samuel Riddle, now vice-president and superintendent of transportation of the Louisville Railway have been handling jointly the work that is now handled by Mr.



R. H. WYATT

Wyatt as general superintendent. The change, which was effective on April 30, marks the close of his thirty-eight years of active service with the Louisville Railway. His recent advancement is one of many promotions he has won in the service of the railway and interurban company.

Mr. Wyatt, who is one of the veterans of the local street railway and interurban service, was originally employed by the late H. H. Littell, who organized the Louisville Railway. The new superintendent has in his possession a much-prized letter, probably the last that Mr. Littell ever wrote. It is in Mr. Littell's own handwriting and is in the nature of a compliment over the promotion which has just come to Mr. Wyatt.

One of Mr. Wyatt's first hard nuts to crack as the new general superintendent was in connection with the adoption of daylight saving by Louisville, commuters favoring a schedule based on daylight saving, while farmers and shippers wanted standard time. A compromise was reached by rearranging the schedule so that now both the time and the service are satisfactory to all.

Mr. Wyatt's connection with the Louisville transportation system dates back to 1883. His first work was han-

dling the reins of a mule team pulling a car on the Twelfth Street line. Subsequently he became a conductor with the advent of electric cars, and later served as railway inspector. He then became transfer agent and afterwards drew an office assignment. For a number of years he was superintendent of the Highland carhouse and has also served as assistant paymaster.

When the interurban group of the Louisville Railway was formed in 1903, Mr. Wyatt became general express agent on the interurban lines. He has been general freight and passenger agent for the seven lines of the interurban system since the Shelbyville and LaGrange divisions were taken over by the Louisville & Interurban Railway in 1910.

## E. I. Lewis and J. D. Campbell Picked for I. C. C.

Nominations of E. I. Lewis of Indianapolis, Ind., and James D. Campbell of Spokane, Wash., to the Interstate Commerce Commission, were confirmed without opposition by the Senate on May 3. The nominations were sent to the Senate by President Harding on April 28.

Mr. Campbell, an attorney, has practiced extensively before the Commission in the Intermountain rate cases. Mr. Lewis has for the past four years been chairman of the Indiana Public Utilities Commission. The selection by President Harding of Mr. Lewis was fully expected, but that of Mr. Campbell came as a surprise.

## Mr. McCardle Commission Head

John W. McCardle, Indianapolis, Ind., was elected chairman of the Indiana Public Service Commission on May 2. Mr. McCardle was the unanimous selection of the members of the commission. He was nominated for the chairmanship by E. I. Lewis, retiring chairman, who has resigned from the commission to accept a place on the Interstate Commerce Commission. Mr. McCardle has been a member of the commission for four years and was recently reappointed by Governor McCray for a second term. He has been vice-chairman of the commission and is regarded as one of the ablest men who have been connected with the Indiana utilities body. With the reorganization of the commission Lawrence C. Loughry, Monticello, Ind., has taken office as secretary. He succeeds Frank P. Litschert, former secretary of the Governor, who has held the position temporarily following the resignation of Carl H. Mote. He is a graduate of the Indiana University Law School. Carl Wilde succeeded M. D. Atwater as director of service.

## Ralph Stickle Resigns

### Well-Known Claims Man of Cleveland Railway to Establish Private Law Practice

Ralph Stickle, assistant superintendent of the accident department of the Cleveland (Ohio) Railway, has resigned to enter the private practice of law in Cleveland. His resignation is much regretted by the operators of the road because of the efficient work that he has done in reducing the accident hazard to a minimum.

Particular study has been made by Mr. Stickle of the automobile hazard, how it may be lessened by the railway companies, autoists and public. He presented a paper on this subject before the Claims Association last October in which he stated that it is the business of claims men to try to make transportation men, autoists and the public realize the importance of this problem and to solve it. Little can be done to



RALPH STICKLE

relieve the claims department in handling auto accidents except to prevent accidents. In his agitation for safety he recommends the repeal of antiquated anti-trolley legislation and systematic continuous safety work among employees, besides propaganda directed toward the education of the public. Also a great step forward would be taken if we had uniform traffic laws in every state so that the different kinds of traffic could be segregated.

Mr. Stickle has been with the Cleveland Railway for seven years, having for some time been in charge of the current claim work. He has also been identified actively for several years with the Claims Association and the American Electric Railway Association.

Before taking up the practice of law, Mr. Stickle was a newspaper man. For five years he was the political correspondent at the state capitol at Columbus for the Cleveland News and later was departmental editor on Cleveland newspapers. He is a graduate of Western Reserve University and the Baldwin-Wallace Law School.

Mr. Stickle will be succeeded about May 15 by Joseph S. Kubu, who is now claim agent for the Utica lines of the New York Railways.

## Mr. McAneny Selects Working Force of Transit Commission

Actual work on the plan to reorganize the transit system of New York city has been started by the appointment by George McAneny, chairman of the new Transit Commission, of Brigadier-General Lincoln C. Andrews as executive officer, Daniel L. Turner as consulting engineer, and three men who will have charge of the work of evaluating the property of the transit companies. The appraisal engineers named include John H. Madden of Brooklyn, valuation engineer; Frederick W. Lindars, chief accountant; and Major John C. Cooper, assistant chief accountant. Also Captain Edward T. Fitzgerald was named acting chief of the Transit Bureau. Five of the new appointees were connected with the old Public Service Commission before the war.

Brigadier-General Lincoln C. Andrews, who has been selected as executive officer of the Transit Commission recently retired from the army. He will have general charge of the new commission's working organization and will, so far as may be necessary, assign its employees to the several divisions or bureaus and superintend the performance of their duties. General Andrews is a graduate of the United States Military Academy. He saw active service in France in the World War and after the armistice became Assistant Provost Marshal General of the Expeditionary Forces.

Daniel L. Turner, who has been appointed consulting engineer to the commission, since 1916 has served as chief engineer under the Public Service Commission, and since 1919 under the Transit Construction Commission. As such he will be the commission's chief advisory engineering officer.

Mr. Madden, selected for engineering head of the valuation work, was assistant division engineer of the old commission and did valuable work in supervising the construction of the new subway in William Street, where many problems new to engineering practice were encountered and successfully solved.

Frederick W. Lindars, now chief accountant, has been a member of the firm of Banks, Haig & Lindars, expert accountants. He also served in a similar capacity with the commission from 1916 to 1919, and organized the Bureau of Accounting, established by the commission to check the expenditures of the Interborough Rapid Transit Company and the New York Municipal Railway Corporation under the new subway contract.

Major Cooper served with Mr. Lindars under the old commission. He resigned in 1915 to enter the military service. Since the war he has been engaged in private business.

Captain Fitzgerald was with the old commission for several years as railway engineer. He served in the navy throughout the war as captain, rejoining the engineering department of the commission at the close of the war.

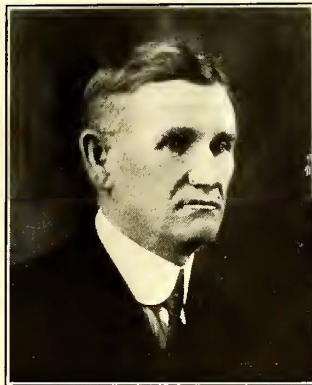
His present assignment will be temporary only, but after he has placed the bureau on a proper footing, he may be used by the commission for similar work in other bureaus.

The fixing of the valuation will be the first move in the program of re-adjustment and rehabilitation planned by the commission. The work will probably begin this week when the new officials take office.

## Mr. McAloney in Atlanta

Weil Known Equipment Man Takes Charge of Rolling Stock of Georgia Railways

W. H. McAloney has recently become superintendent of equipment of the Georgia Railway & Power Company, Atlanta, Ga. He will have full charge of shops, carhouses and garage, and will have jurisdiction over maintenance of all street cars and automobile equip-



W. H. McALONEY

ment. The appointment of Mr. McAloney was made by General Manager Butler to fill the vacancy caused by the death of Mr. Moore in 1919.

Mr. McAloney is considered to be one of the leading equipment men in the country. He was for about sixteen years superintendent of rolling stock of the Denver (Col.) Tramway. While there he gained for himself a great many friends and much popularity because of his interest in appliances for the convenience and comfort of the employees. Articles by Mr. McAloney have appeared in the JOURNAL from time to time, dealing particularly with his experiences and suggestions regarding various pieces of railway equipment.

While in Denver he was actively connected with the welfare association of the Denver Tramways. Many times his wise words of admonition to employees were put in the form of maxims. One of these, which was made some years ago and is just as true today, is, "The traveling public is becoming more and more exacting, and the standard of service is continually being raised. Let us try to be faithful, accurate and constant within the limits of commercial error."

Mr. McAloney began work for the

Denver Tramways as a conductor in 1891, and after a few months of this work entered the office of E. W. Olds, at that time master mechanic. Soon afterward he was appointed division superintendent of the East Division and later returned to the shops as storekeeper. In 1902 he became superintendent of rolling stock, the position he held at the time of his resignation in 1918.

In July, 1918, Mr. McAloney was appointed superintendent of rolling stock of the Winnipeg (Man.) Electric Railway. He remained in Winnipeg until 1920, when he became associated with John A. Beeler, consulting engineer.

Mr. McAloney's arrival in Atlanta makes the third Winnipeg man to join the operating staff of the Georgia Railways & Power Company. General Manager Butler not long ago directed the operation of the Winnipeg Electric Railway and J. R. Ong, whose appointment to the position as transportation engineer in Atlanta was made known in the April 9 issue of the JOURNAL, held the same title in Winnipeg.

Walter C. Strunk has resigned from the mechanical research and construction division of the Interborough Rapid Transit Company motive power department to enter the service of the Westinghouse Electric & Manufacturing Company, Chester, Pa. Mr. Strunk, after his graduation from Swarthmore College in 1909, immediately entered the Metropolitan Street Railway Company Training School. Two years later he entered the electrical department, and in 1912, when the New York Railways Company was organized, he became assistant engineer in the motive power department of the Interborough Rapid Transit Company and New York Railways Company. His work up to 1917 was in the Economics Division, since which time he has been in charge of all tests and experimental work in connection with mechanical power station equipment.

Edward C. Marshall, Charlotte, N. C., has been elected president of the Southern Public Utility Company by the directors to succeed the late Z. V. Taylor, who died suddenly about a month ago. Mr. Marshall has been treasurer of the company since its organization in 1913, and in that capacity had been the closest associate of Mr. Taylor in the direction and development of the company, his help having been especially valuable in working out the financial problems during the constant expansion and development of its properties. Prior to 1913 he was for a number of years connected in an official capacity with the Southern Power Company, of which the Southern Public Utilities Company is a subsidiary. The latter company operates the street railway, lighting and electric power systems in Charlotte, Winston-Salem, N. J.; Greenville, N. C., and Anderson, S. C., and the power and lighting systems in nearly a dozen other towns in the Carolinas. Its holdings represent an estimated value of about \$20,000,000.

# Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE MANUFACTURER,

SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

## Another Coal Shortage Impending?

**Production Is Still Low, Consumers' Stocks Are Decreasing, but More Interest Is Displayed**

Despite present light demand for coal and the prevailing promptness of railroad deliveries considerable discussion continues to be heard regarding prospects of another coal shortage this fall and winter. According to the May 12 issue of *Coal Age*, C. H. Markham, president of the Illinois Central Railroad, is advertising in newspapers in the Middle West warning the public of an impending coal shortage because, "as one of the largest coal-carrying roads in the Middle West," he considers it a duty to sound this warning. He plainly states that the country is headed for a serious bituminous coal shortage. At the same time Senator Elkins, in a statement issued from Washington, emphatically declares that a "sudden restoration of the market and an attempt to crowd the hauling of the bulk of the nation's coal into the autumn and winter months will place upon the railroads a burden which they are admittedly unable to discharge adequately."

### PRODUCTION HAS INCREASED LATELY

Production of soft coal during the last three weeks of April started an upward climb from the low point of about 6,000,000 tons per week to nearly 7,000,000 tons. This increase in production followed a steady decline in output that began last December, and it must be remembered that even the present rate of operation is still lower than at any time since April, 1914, except for the period of the coal strike in 1919.

Stocks of bituminous coal in the hands of consumers in this country as of April 1, 1921, are estimated at about 37,000,000 tons by the Geological Survey. This represents a decrease of about 8,000,000 tons in the stocks held by consumers on Jan. 1, 1921. As current consumption and exports are doubtless in excess of current production the draft on consumers' stocks still continues.

The contract market remains dormant as quotations are too far above spot coal prices to attract buyers. Producers hold to their prices firmly, however, and refuse to close business on a yearly basis unless granted a figure which assures them some profit. The spot market, on the whole, is perhaps a little more active. A "busy early" campaign to encourage stocking coal has stimulated business in the Middle West, and in New England buyers seem to be getting over their indifference too. There was a distinct revival to the ex-

port market the latter part of April. Throughout the country the decline of consumers' stocks is causing buyers to keep more actively in touch with the market even though they are not taking a heavier volume of coal.

Some purchasers are apparently holding off in the hope of a drop in freight rates. Even if this should materialize in time to care for a considerable tonnage before the expected fall rush may develop, however, it still seems hardly likely that there is prospect of a drop large enough to justify holding back purchases.

## Better Sentiment Indicated by Business Conditions

**Fewer Failures, Lower Discounts and Easier Money, Lower Prices and Wages, Less Unemployment**

It seems apparent that a turn for the better and a change in business sentiment are indicated in some items of general business news. In April the failures showed a falling off for the first time in a great many months. Dun's, Bradstreet's and all of the large banks are now seeing hopeful signs in current business conditions. Federal Reserve Bank discounts are being lowered. This is occasioned by easier money and in turn has the effect of making money still easier, after which building prospects are brighter.

The number of idle freight cars is decreasing — although the decreased number is made up entirely of freight cars, nevertheless, if more coal is being moved, is it not indicative of a belief on the part of industry that greater production is soon due?

Almost all business commodities are now down to a level which, while not in all cases equal to the pre-war level, still is of sufficient lowness to warrant resumption of activities on a fair scale. Steel is down and steel wages with it. The only item that is seen to be up is the item of freight, and pressure is now being brought to bear on that. It would not be unreasonable to expect lower freight rates within sixty days.

Non-employment in April was about the same as in March. Some industries show great lack of employment, but many industries show that non-employment is lessening. The indications are that from now on the numbers of unemployed can be expected to decrease.

There seems to be one answer—that business is now on the beginning of the floodtide. He who waits until the tide is full to cultivate this business will probably find that he has lost the momentum of being carried along on the wave.

## Stock Deliveries of Standard Size Gears and Pinions

**Buying Is Light, Both for Repairs and New Cars, but Is Expected to Increase Gradually**

Manufacturers of railway motor gears and pinions have for some time been completely caught up on orders and at the present time are carrying a considerable quantity of standard sizes in stock. Immediate shipments can therefore be made on these, but where special gear blanks have to be ordered for finishing, deliveries range as long as three weeks to four months. Present production in this field is about on an average of 50 per cent of capacity. Some manufacturers are operating a full force of workmen on half time, others have reduced their shop force and the number of working hours per week in about equal proportion.

Demand for gears and pinions this spring is quite uniformly reported to be much below normal. Customers are existing from hand to mouth and repair orders are placed only as is absolutely necessary. With the period of long deliveries well past there is of course little necessity now for a railway to stock gears and pinions. Orders on behalf of new cars are almost negligible for the reason that car builders are still well stocked with motors purchased last year and motor manufacturers are producing only at about one quarter of their capacity.

### REDUCTIONS NOT UNIFORM

Prices in this field are trending downward in view of labor and material reductions. Wages have been cut as much as 15 per cent in some instances, while in others war-time prices still prevail. Consequently the price situation varies among different producers, one, for instance, reducing both gears and pinions about 5 per cent the first of last month, a drop of about 10 per cent from the peak, while another manufacturer has made about a 10 per cent decrease on pinions but has not reduced gear prices. The reason for this, it is stated, is that the cost of raw material on gears has not come down appreciably. With the reduction in steel prices and the cut in wages recently put into effect by the United States Steel Corporation, however, it would not be surprising to see a reflection of this upon gear and pinion quotations before long, especially where labor readjustments have not yet been made.

In general a gradual resumption of business is anticipated in this field the balance of the year, but a fairly brisk demand is not expected to materialize before the fall.



## Some Activity in Fare Register Market

Some Decrease Recently in Normal Demand Felt Early This Year—Prices Are Unchanged and Shipments Are Prompt

Sales of fare registers during the first two months of this year, usually a slack period with manufacturers, are reported to have held up well to the standard of a year ago. Recently there has been some falling off in demand, it is true, but the market shapes up well in comparison with other classes of railway equipment when the long life and small cost of the fare register per car is taken into consideration.

Stocks of raw material are large, too much so in some instances. Manufacturers are not overstocked on the finished product but hold a sufficient supply to insure prompt shipments. With the falling off of business noted above, production has been cut down and now is such that a great many more registers could be turned out if necessary, especially where additions to plant have been made.

### MATERIAL AND LABOR BOTH DOWN

Wages in this field have generally been reduced from 10 to 20 per cent and further cuts may be made, it is stated, at such time as conditions warrant. Material has come down in cost on an average of 20 to 25 per cent, too. In a representative instance, however, the average price of fare registers in 1920 stood about 75 per cent higher than in 1914, while costs went up approximately 110 per cent during the same period. Therefore though prices in this line have not been reduced, quotations on last year's basis are still lower in proportion to cost than in 1914. If material and labor come down further, however, producers will be in a position to reduce selling prices, it is stated. The cost of renting fare registers, where cars are equipped on that basis, shows no reduction either, since renting prices were maintained throughout the war period without change.

Regarding the general outlook for business in this field, producers are reducing expenditures to the lowest possible level on the expectation that a return to brisk business will not occur for some time to come. Revision of Federal tax laws and the release from wage agreements with railway employees are two things specifically mentioned as needing remedy before the situation will improve.

### Small Electrification Projected in Brazil

According to advices from the American Consul at Rio de Janeiro, Brazil, part of the railroad at the Itabira de Matto Dentro iron mines will be electrified in conjunction with the project for electrical equipment of those mines, for which a hydro-electric plant will be installed on the Piracicaba River, in the State of Minas Geraes.

## Rolling Stock

The City of New York, N. Y., through an appropriation of \$56,000 granted on May 6, has authorized Grover A. Whalen, Commissioner of Plants and Structures, to purchase trackless trolley cars to be placed in operation on Staten Island within the next sixty days. Eight cars will be operated over two routes, one from Meier's Corner to Linoleumville, a distance of 2½ miles, and the other from Manor Road to Seaview Hospital, a distance of 4 miles.

The Monongahela Valley Traction Company, Fairmont, W. Va., has recently purchased a new 50-ton Class B Baldwin-Westinghouse locomotive, a duplicate of locomotive No. 2,000, installed about two years ago, to handle carload and package freight business. It is equipped with four type 562-D-5, 100-hp., 600-volt, field control motors and double-end HL control. It will be used for general utility haulage as this company does extensive business on a steam railroad basis of operation. The general characteristics of this locomotive are as follows:

Weight	50 tons
Maximum tractive effort (25 per cent adhesion)	25,000 lb.
Normal tractive effort at 9.7 m.p.h. (full field 1 hour)	15,200 lb.
Continuous tractive effort with forced ventilation (short field)	9,000 lb.
Maximum trailing load starting on ½ per cent grade	860 tons
Balancing speed (short field at 600 volts) on level with 500-ton trailing load	17.5 m.p.h.
Balancing speed (short field at 600 volts) on 3 per cent grade with 200-ton trailing load	10.5 m.p.h.

The United Railways and Electric Company of Baltimore, Md., mentioned in last week's issue as placing an order for ten safety cars, has issued the following information and specifications on these cars:

Number of cars ordered	Ten
Date of order	April 25, 1921
Delivery	Sixty working days
Builder	The J. G. Brill Company
Type of car	Safety; double door
Weight, total	17,000 lb.
Length	31 ft. 1 in.
Truck wheelbase	8 ft. 0 in.
Width	7 ft. 10½ in.
Height, rail to roof boards	9 ft. 10½ in.
Body	Steel
Interior trim	Cherry
Roof	Arch
Air brakes	Westinghouse
Bumpers	Three-inch channel
Car signal system	Faraday
Control	Safety Car Devices Company
Curtain fixtures	National Lock Washer
Curtain material	Pantasote
Designation signs	Hunter
Door operating mechanism	Safety Car Devices Company
Fare boxes	Johnson
Fenders or wheelguards	H. B. wheelguards
Gears and pinions	Nuttall, helical
Hand brakes	Peacock
Heater equipment	Consolidated Car Heating Company
Headlights	Dayton Mfg. Company
Journal boxes	Brill
Motors, type and number	Two Westinghouse 508, inside hung
Registers	International R7
Sanders	Ohio Brass Company
Sash fixtures	Brill
Seats	Brill
Seating material	Wood slats
Slack adjuster	Gould
Trolley catchers or retrievers	"Q" P. catchers
Trolley base	U. S. No. 6
Trucks	Brill
Ventilators	Brill
Wheel (type and size)	26-in. rolled steel

Youngstown (Ohio) & Suburban Railway Company has recently placed in service a standard class B, 45 ton, Baldwin-Westinghouse locomotive. It is equipped with four type 562-D 5, 600-volt, 100-hp., field-control motors and HLF control. The new locomotive is required to handle the increase in the company's car load freight business.

## Franchises

Linnton, Ore.—The City Council of Portland has assured residents of Linnton, a suburb of Portland long without car service, that a franchise will be granted for a railway to that district if the promoters of the proposed line give the city assurance that they will carry the project to completion. An application for a franchise for a line from Linnton to Portland was filed with the Council by J. B. Shaefer and others and was referred to City Attorney Grant with instructions that a franchise with clauses safeguarding the public be prepared and brought before the City Council. Before a franchise can be granted it must be advertised for a period of 60 days. The promoters of the proposed line have obtained a franchise from the County Board of Commissioners for the construction of the line from Linnton to Oilton, a distance of three miles. It is proposed to operate over the lines of the United Railway from Oilton to Twelfth and Burnside Streets, under a common-user clause. The city is asked to grant the franchise from the city limits to Twelfth and Burnside.

## Track and Roadway

San Francisco-Oakland Terminal Railways, Oakland, Cal.—The San Francisco-Oakland Terminal Railways has applied to the city for permission to double-track their line on Park Boulevard, a distance of one-half mile.

Toronto, Can.—No contracts for track reconstruction in Toronto will be let until after the commission takes over the railway system in September next. The commission has decided not to change the existing gage which is 4 ft. 11 in., against the standard 4 ft. 8½ in. of the radials, owing to the tremendous expense this change would incur.

British Columbia Electric Railway, Vancouver, Can.—The British Columbia Electric Railway has started work on the relaying of tracks on Government Street, Victoria.

Los Angeles (Cal.) Railway.—The Los Angeles Railway has started improving Maple Avenue. The track will be reconstructed with new 116-lb. girder rails between Washington and Thirty-second Streets and on Thirty-second Street between Santa Barbara and Wall.

Worcester (Mass.) Consolidated Street Railway.—The Worcester Consolidated Street Railway is planning track repair work on Millbury Street and on

South Main Street. According to the general manager there are other improvements which the company would like to undertake and which would cost about \$300,000, but unless receipts warrant it these improvements will have to be deferred.

**Morris County Traction Company, Morristown, N. J.**—The Morris County Traction Company will relay the tracks in Wharton. The Morris County Freeholders will help relay the tracks and pave the street and charge the costs to the traction company, collecting it at the rate of \$10,000 a year. The work will cost about \$40,000.

**Dayton & Troy Electric Railway, Dayton, Ohio.**—It is expected that the Dayton & Troy Electric Railway will lay heavier rails through Troy, Ohio, in which event the entire track will be torn up and the right of way repaved with brick.

**Portland Railway, Light & Power Company, Portland, Ore.**—The Portland Railway, Light & Power Company is planning to start extensive work on repairs of its tracks on First Street. Approximately \$36,000 will be spent on First Street, including the reconstruction of considerable trackage.

**Portland Railway, Light & Power Company, Portland, Ore.**—The Portland Railway, Light & Power Company is planning extensive improvements on its interurban lines during the current year. The items include contract for the replacing of more than 50,000 ties, repairing of pavement in Oregon City, new station facilities on the Oregon City line at Oak Grove, maintenance work on bridges and trestle. It has been announced that the outlay will be about \$200,000.

**Pittsburgh (Pa.) Railways.**—The Public Service Commission of Pennsylvania has abolished four grade crossings on the Pittsburgh & Charleroi Street Railway operated by the Pittsburgh Railways.

**Saskatoon (Sask.) Municipal Railway.**—Tenders addressed to the city commissioners, Saskatoon, were received until May 2, 1921, for approximately 5,000 ties for the Saskatoon Municipal Railway.

**Houston, Bay Shore & Texas City Interurban Railway, Houston, Tex.**—Construction work on the Houston, Bay Shore & Texas City Interurban line began about April 25, according to an announcement by E. Kennedy of Houston, Texas, president of the line. The first unit of the line to be built, Mr. Kennedy said, would be the section beginning at Main Street, Houston, and extending to the San Jacinto Battleground, a distance of 18 miles down the Buffalo River. It is estimated that this section can be built at a cost of \$25,000 a mile, although Mr. Kennedy said some bids received were as low as \$23,000 a mile. This railway was organized several months ago.

**Utah-Idaho Central Railroad, Ogden, Utah.**—Although proposed extensions of the Utah-Idaho Central Railroad

from Preston, Idaho to Grace, Idaho, and possibly to Bancroft, have been urged by citizens of those cities, plans for the extension will not be considered until possibly next year, according to officials of the company. However, it is expected that steps to improve the road and to extend the lines to Grace and Bancroft, and possibly to Pocatello, will be taken in another year.

### Trade Notes

**Automatic Ventilator Company, New York City,** manufacturer of car ventilators, has removed its offices to 25 West Broadway.

**C. H. Wheeler Manufacturing Company,** manufacturer of condensers, pumps, water cooling apparatus, etc., announces the removal of its New York City office to 50 Church Street.

**Electrocar Corporation, 501 Fifth Avenue, New York City** is the new name of the Berg Electric Car Company, which plans to manufacture buses for use in conjunction with electric railway systems.

**The Electric Motor Repair Company, 627 Myrick Building, Springfield, Mass.,** has established a separate brush department in its organization and will henceforth market its carbon brushes under the trade name "Mohawk carbon brushes."

**The Ross Heater & Mfg. Company, Inc., Buffalo, N. Y.,** announces the opening of a branch office in the New York City district, at 2 Rector Street, its sales agency being discontinued. C. M. Hardin, formerly located at the home office, will be in charge.

**Gold Car Heating & Lighting Company,** announces the removal of its offices and warehouse on May 1 to Bush Terminal, 220 Thirty-Sixth Street, Brooklyn, N. Y. The company will now have much larger quarters and greater facilities for handling large orders.

**Signal Transformers for Melbourne.**—The Victorian Railway Commissioners, Spencer Street, Melbourne, Australia, will receive tenders until June 15 for fifty oil-immersed, single-phase track and signal transformers for power signalling (contract No. 33,901).

**The Michigan Stamping Company,** having absorbed the Toledo Metal Products Company, has moved from Toledo to Detroit, where it will be located at Mack Avenue and Terminal Railroad. Greatly increased manufacturing space will be afforded for production of the company's line of stamped steel outlet boxes.

**The Power Specialty Company, New York City,** manufacturer of superheaters, economizers and oil stills, has opened new offices in Kansas City, Mo., 512 Reliance Building and in Dallas, Tex., 627 Linz Building. The Kansas City office is in charge of William F. Meyer, who for the last two years has been attached to the Chicago sales office. The Dallas office is in charge of M. W. Brown.

**The Peerless Equipment Company, Hanover, Pa.,** has purchased the entire business of the Electrical Manufacturers' Equipment Company, Chicago. This includes the manufacturing and selling of "Segur" coil-winding tools and allied equipment. This line will be combined with the line of "Peerless" armature repair tools, which business has recently been purchased by the Peerless company from the Manley Manufacturing Company, York, Pa. The Electric Service Supplies Company will continue to act as exclusive selling agents for the Peerless Equipment Company.

### New Advertising Literature

**Cranes.**—The Universal Crane Company, Cleveland, is distributing bulletin No. 11, describing the Universal cranes.

**Transformers.**—Bulletin 2005 describes "Pittsburgh Power Transformers" of the Pittsburgh Transformer Company, Pittsburgh.

**Oil Engines.**—The Anderson Foundry & Machine Company, Anderson, Ind., is distributing a folder describing its type "K" Anderson oil engines.

**Insulators.**—The Hopewell Insulation & Manufacturing Company, Hopewell, Va., has recently published catalog No. 1, covering its types of insulators.

**Evaporators.**—The Griscom-Russell Company, 90 West Street, New York City, is distributing bulletin No. 330, the Reilly self-scaling evaporator.

**Coin Counters.**—The C. J. Root Company, Bristol, Conn., has compiled a book, "The Census Takers of Industry," descriptive of coin-counting operations.

**Electric Hoists.**—The Sprague Electric Works of the General Electric Company, 527 West Thirty-fourth Street, New York City, have issued bulletin No. 48,967.

**Lubrication.**—"Turbine Lubrication," Part 2, is the subject of the leading article in the April, 1921, issue of *Lubrication* published by the Texas Company, 17 Battery Place, New York City.

**Turbo-Generator Sets.**—"Turbo-Generator Sets" is the title of bulletin No. 28 recently issued by the Ridgway Dynamo & Engine Company, Ridgway, Pa., in which it describes the latest improvements, including its pneumatic governor.

**Oil-Heating Apparatus.**—The Power Specialty Company, New York City, has published a forty-page bulletin on the results of investigations on the requirements of oil-heating apparatus with a view to developing a more efficient type of still.

**Stokers.**—The Combustion Engineering Corporation, 43 Broad Street, New York, has issued bulletin C-2, describing the Coxe stoker. The company is also distributing two pamphlets, one entitled "Use of Pulverized Coal Under Central Station Boilers" and the other "Powdered Coal Application to Four 2640-Hp. Boilers."