

Electric Railway Journal

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

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Are You Ready for the Winter?

THE importance of proper preparation for snow conditions was very forcibly impressed on all by the severe winter of 1919-1920. Comparisons of equipment failures on a few of the roads operating in the New England district which was most affected indicate that careful preparation made months in advance of the storm was a paying investment. The provision of adequate snow-fighting equipment supplemented by a carefully worked out system for attack is a prime consideration, and to this should be added a comprehensive program for dipping and baking armatures and other electrical parts exposed to the severe conditions. Roads that were most unfortunate in the past should profit by the experience of others and districts which were not visited by the previous storm may be the ones to suffer most this year. Full preparation should be made without delay as the expense to which a company goes in maintaining effective snow-fighting facilities is sure to be repaid by its retaining the good will of railway patrons.

Favorable Progress Being Made with Transit Hearing

THE railway men who have testified at the New York hearings have generally approved the tentative plan of reorganization proposed by the commission, with two exceptions. The first is that they naturally must delay assent so far as their own property is concerned until the valuations are made public. The second is that with practical unanimity they have expressed a fear that the method of control proposed in the original outline might result in eventual political domination of the superholding company proposed. It is toward this provision that Mr. Williams directed his principal criticism. He also expressed fear of opposition to the plan on the part of the owners of underlying securities unless some measures were adopted looking more clearly to the retention of the rights of the holders of underlying liens. The force of the first criticism made by Mr. Williams has been somewhat destroyed by the later assurance from Chairman McAneny that as regards the board of control a sharp line of demarcation will be drawn between that board and the operating companies and that the commission proposes that the operating companies shall have all the ordinary functions of operation that the companies have at present. In this connection, however, the warning of Mr. Morrow is of great value, that no matter what plan is put together there will be perils in it, no matter whether the property is under private management or public management. Otto H. Kahn, in referring to this feature, largely supported Mr. Morrow's view though emphasizing the need for adequate equities in the proposed consolidation for present bondholders.

The first phase of the investigation is fast drawing to a close. The promise is made that early in the new year

the valuations will be taken up for consideration. Ideas about valuations vary widely. The owners of the various properties may be counted upon zealously to guard their own interest. It is right that they should do so, but the fact ought to be constantly borne in mind by them that the commission plan, properly drawn and safeguarded, will have a future potential value that it would be well to weigh carefully against any differences which may exist at the outset between the values advanced by the commission and those which the owners themselves set upon their properties.

Railways Have Particular Interest in Harding's Message

PRESIDENT HARDING'S message to Congress contains at least two recommendations of very vital concern to electric railways—the creation of “judicial or quasi-judicial tribunals for the consideration and determination of all disputes (between labor and capital) which menace the public welfare” and amendment of the constitution “so as to end the issue of non-taxable bonds” by federal, state and municipal governments. By thus boldly recommending congressional action on these important though largely unpopular matters the President has again demonstrated his interest in and understanding of the needs of business and the dangers that lie ahead in the present order of these two things. He won the very high admiration of the electric railway men generally in his address before the midyear dinner of the A. E. R. A. nearly two years ago and now these recommendations to Congress confirm the confidence that he won then.

The question of non-taxable bonds was discussed in these columns last week. As to the other matter, it is hard to imagine any strike of labor which causes more direct inconvenience, suffering and financial loss to the general public than one involving a street railway. Yet such strikes have not been uncommon due to the circumstances that permit a labor organization “to exact unfair terms of employment or subject the public to actual distresses in order to enforce its terms,” to put it in the words of the President. While the President is more concerned with strikes of those labor organizations which involve the whole nation, the machinery that may be devised to arbitrate nation-wide disputes might logically be duplicated in local or state tribunals organized to take jurisdiction in controversies of sectional or community interest. The Kansas tribunal sets the precedent in this country for this sort of handling of labor matters, and its record for effectiveness thus far has been good.

Some railway managements may look at this proposal as another “War Labor Board” proposition, or may be averse to it simply because of their disapproval of having any authority that may step in between the company and its employees in any of their relations. The decisions of the War Labor Board certainly gave ground for substantial fear of any such governmental agency.

However, the decisions of this board in increasing wages without regard to the ability of the company to pay have been pretty well discredited, and it is inconceivable that the Harding labor tribunals would be so constituted as to be able to take cognizance of only one side of the problem. Commission regulation and service-at-cost franchises have so firmly established the idea that rates of wages and rates of fares are inseparably tied together and that any increase in wages must be passed on to the public that there can never again be a repetition of the War Labor Board attitude in acting on this great question.

So it would seem the part of wisdom for all railway men not to oppose the Harding proposal, but to support it and use every effort to assist Congress to develop an act that is comprehensive and effective.

A Long Way to Go for Ties

A RECENT news item in this paper called attention to the fact that the Philadelphia Rapid Transit Company had purchased a large quantity of Douglas fir ties which are to be shipped by water from the Pacific Coast. In spite of the distance, it is stated that the ties will be laid down in Philadelphia at about a dollar each. Meanwhile, cedar ties from Maine recently have been imported into Connecticut, where for many years the supply of local oak and chestnut ties seemed to be unlimited.

The very fact that ties are being transported such great distances indicates the truth of the statements heretofore made to the effect that tie timber is becoming more and more scarce and that the electric railways must pay more attention to the tie problem. Even granting that high freight rates on yellow pine ties from the South caused Philadelphia to look elsewhere for ties, the available supply of such timber is decreasing and the cost is becoming almost prohibitive, due to higher labor rates.

Under such conditions the use of substitute ties must continue to increase and the most careful consideration should be given by track engineers to their design and selection. But the wood tie is by no means to be considered out of the case. On the contrary, the so-called inferior tie timbers may be used if means are adopted to protect them from wear and decay. Such protection calls for the use of tie plates and timber preservatives. It seems probable that there will be a rapid increase in the use of inferior wood ties together with the protective agents mentioned. Incidentally, the Douglas fir tie is classed as an inferior tie, being a soft wood which is rated rather low in the scale of mechanical property ratings of timber. Nevertheless, this species constitutes about 8 per cent of the total number of ties annually used by our railroads.

The matter of preservatives for tie timber is assuming an increased importance in the electric railway industry and it is indeed fortunate that coincident with increased interest in the subject, the Engineering Association has provided a valuable aid to those who are seeking information, in the excellent joint report on wood preservation which was presented at the recent Atlantic City convention. This report may be considered almost as a textbook on the subject and it was very favorably received by those engineers who are among the representative men in the wood-preserving industry.

The Piano Manufacturers and Shakespeare Also Teach Us How to Sell

DIFFERENT industries have to use different methods to induce people to purchase more of the goods they manufacture than are actually needed. A larger number of electric railways than formerly are becoming convinced that merchandising methods are desirable in the railway business and they can well study the methods followed in older commercial lines.

Under the heading "Selling Raisins and Rides," in the ELECTRIC RAILWAY JOURNAL for Nov. 19, instance was cited of the new plan of selling raisins in 5-cent cartons for snacks, as an example of how the sales of a standard food product were increased enormously in a short time, and at an actual although not apparent advance in price over purchasing by the pound. When this brilliant example of catering to the public's desire was mentioned to a manager who has become nationally famous for his 5-cent packages of transportation, he said: "Why don't you tell 'em about the piano business, the furniture fellows and other birds that make us think we just have to have their stuff whether we can appreciate it or not?" What he continued to say is better paraphrased in less vivid verbiage.

Is it not a fact, he asked, that the piano people have sold their product so well that the successor of the harpsichord and spinet is considered an indispensable part of the furniture whether any one in the home ever plays it or not? Sales ability put that view across with rich and poor alike. Then look at the furniture fellows with their subtle insinuation that no really sane persons would be content with anything but "period" furniture, the period style to change, of course, long before the furniture has worn out. More recently, it has been discovered that the later forms of phonograph cabinets are too ugly to be with this period upholstery, so we are asked to buy gramophone cabinets disguised as tables or desks. If we insist upon retaining the more efficient and more compact sound producers we are coarse yokels. At least there is something about the advertising that makes us feel that way, whereupon we rush to the period emporium and soon see the honest phonograph whose looks did not belie its purpose trundled out into the cold.

A more flagrant example is the selling of automobiles on a long-run credit basis. At a recent conference the executive of an automotive credit concern pointed out why private car installment customers were so much more reliable than motor-truck purchasers of the credit class. The truck buyer quit when he found that he wasn't making money. It was pure business with him. In the case of the private car buyers, a variety of other motives operated to keep them to fulfill their contracts. A dominant motive was that a "car" was essential to their standing in the community. They would rather stint themselves in food or household matters than give up what habit had turned from a luxury into a need.

The note that ran through this manager's talk was that no business is a success unless it can induce people to buy more than their bare necessities. The managers who say that people ride only when they need to and that no attractions in fare (or service) could increase that riding are wrong. Shakespeare evidently understood the principles of salesmanship better when he made the distressed Lear cry:

"Oh reason not the need: our basest beggars are in the poorest thing superfluous.

"Allow not Nature more than Nature needs, man's life is cheap as beasts."

From Tree to the Finished Stick

Turpentine and Rosin Are Important Products of the Pine Gum—Barrels for Transporting Rosin Are Made of Waste Pine Strips—Large Straight Trees Are Used for Poles and Small Ones for Ties

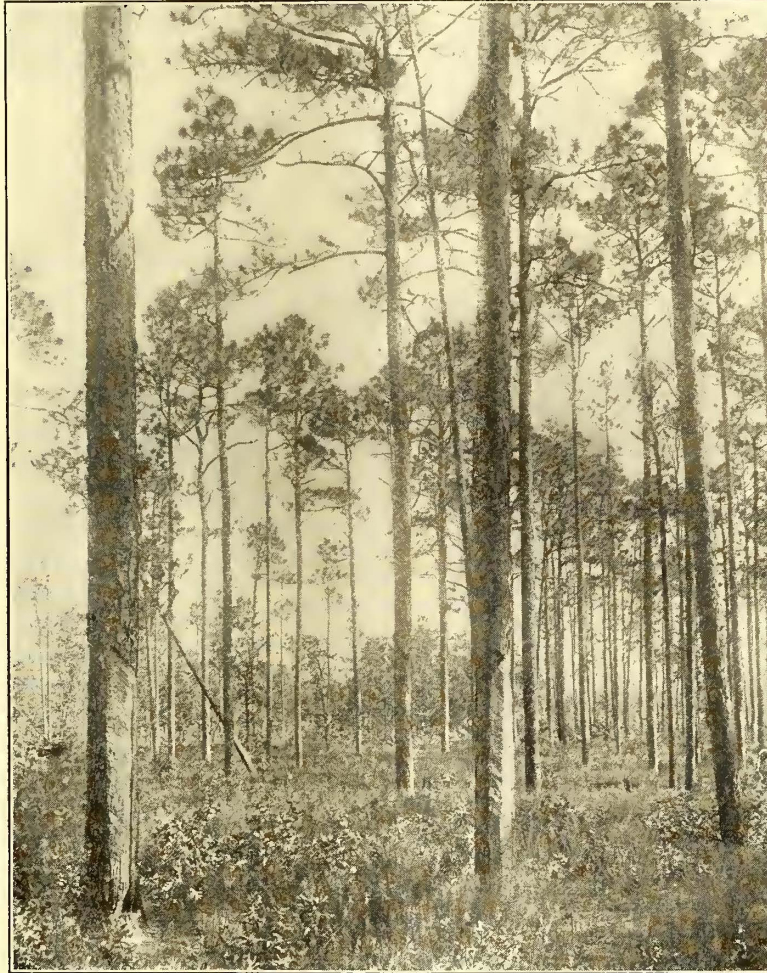
BY HOWARD H. GEORGE

Engineer Maintenance of Way Public Service Railway of New Jersey

YELLOW pine is one of the most important woods used in electric railway construction work for ties, bridge timbers and piling. Probably few of the many engineers specifying long leaf yellow pine have ever seen the wood in its native state and are but vaguely acquainted with the various steps in the process of its manufacture into sized sticks. Such knowledge, however, assists materially in showing the importance of conserving the present supply and preventing waste in cutting to uneconomical dimensions. A trip to Florida, Georgia or some other Southern state would, therefore, probably prove both beneficial and interesting, especially at a time when we are all getting out our winter overcoats and making other preparations for the winter season. One of the important products of the pine is its gum, from which is manufactured turpentine and rosin. The tree, before being cut down, is tapped for naval stores, a general term applied to such products of the pine tree as rosin, tar, tur-

quart and hang it on a nail, so placed as to catch all the drippings.

The chipper is followed round the woods by a man who carries a pail and dips the gum out of the box with a trowel-shaped spoon, or scrapes it out of the pot, as the case may be. When his pail is full he dumps it into one of the collecting barrels, which are so placed as to be convenient for a given territory. When the barrels are filled they are carted by wagon to the still. The barrels are rolled up an incline to a platform which is level with the top of the still, the gum is emptied out and a fire is started in the fireplace below. The still consists of a large copper receptacle and holds about thirty-five barrels of gum. When the gum and water boil the steam escapes through the top connection into the worm, which passes through a large wooden tank filled with cold water. This causes the steam to condense and the liquid to run out through a small pipe at the bottom of the



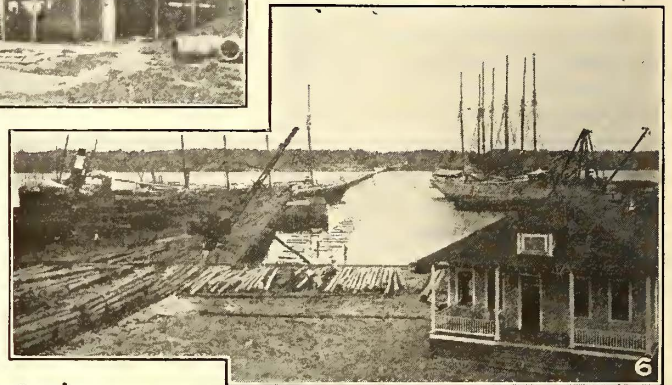
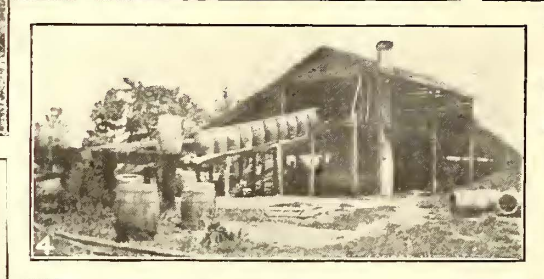
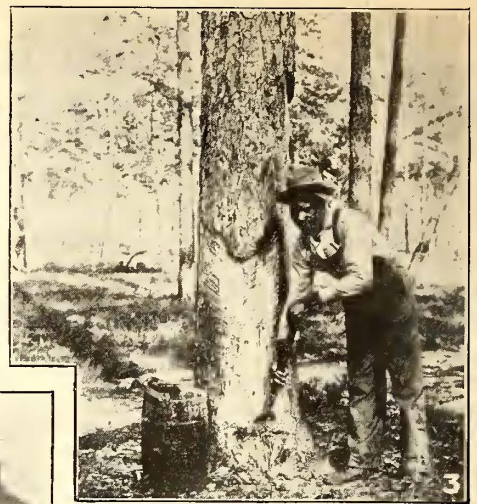
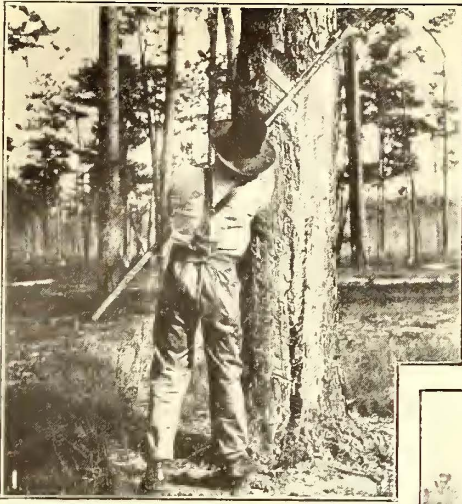
VIEW IN A PINE FOREST. THE TWO TREES IN THE FOREGROUND HAVE BEEN BOXED AND CHIPPED

pentine, etc. A tree can be tapped or boxed for from three to four years, and some large trees have as many as four boxes on them. A box is made with a specially constructed axe with a bit 10 in. long. This box is cut just above the base of the tree and forms a receptacle for the gum. After this the tree is chipped, commencing immediately above the box to start the flow of gum. The chipping is diagonal and gives a sort of breastbone look to the tree. It is made with a square knife on a handle 2 to 6 ft. long and is done once a week from Feb. 1 to Oct. 20 for the purpose of insuring a continuous flow of gum. Accompanying illustrations show trees which have been boxed and chipped and a workman in the act of "hocking" or "chipping" a tree.

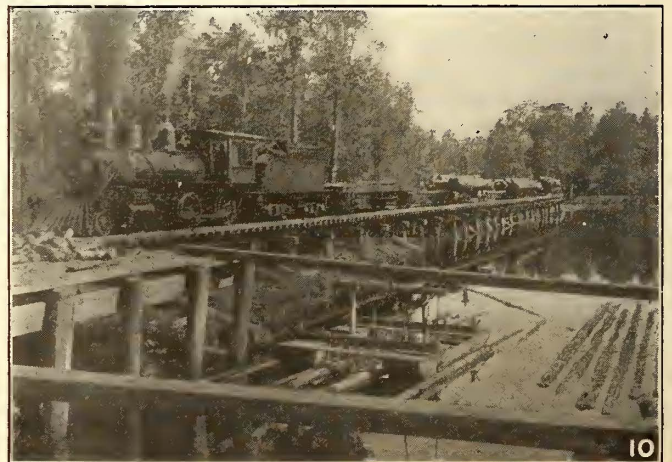
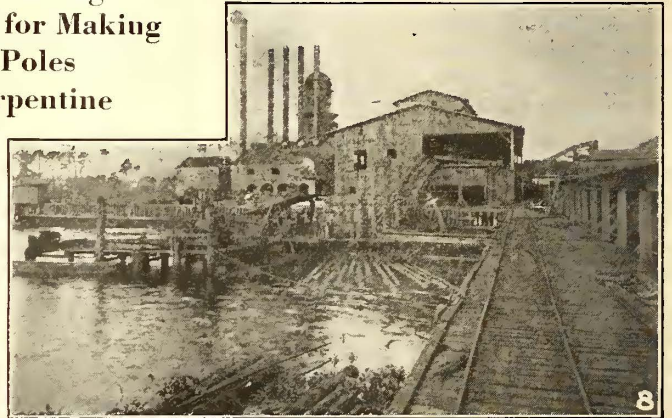
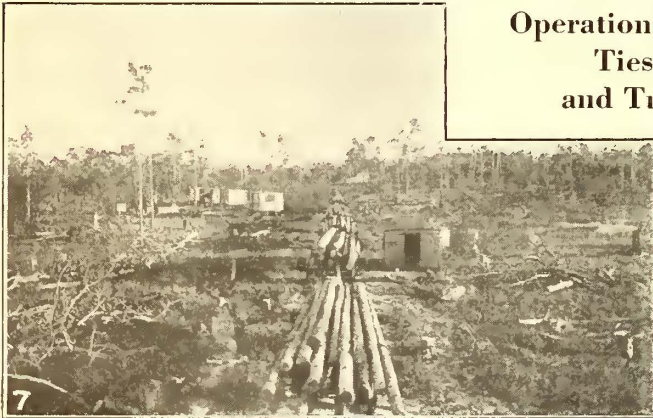
Instead of cutting a box in the base of the tree the more modern way is to use a clay pot holding about a

worm into a large barrel placed alongside the track. The water, being heavier, goes to the bottom and the spirits rise to the top and flow through a small pipe about 3 in. below the top of the barrel and into a white oak barrel that has been glued on the inside to insure a tight seam and prevent leakage. During the process of distillation a little water is added now and then, in all about three barrels, to prevent the spirits and gum from burning.

When the distillation has gone on for a period of about two hours the stiller sounds his still and can tell by the sound whether he has all the spirits out of the gum or not. If so, the top connections to the worm are removed and the residue is run out through a tail gate at the bottom of the still and into a large strainer lined with cotton batting to catch all chips, needles or any



**Manufacturing
Operations for Making
Ties, Poles
and Turpentine**



No. 1—Workmen hocking or chipping a tree.
No. 2—Tree equipped with clay pots.
No. 3—Workman engaged in collecting gum.

No. 4—A typical turpentine still.
No. 5—Typical Southern skidding screws.
No. 6—Piling is taken from the river and loaded at dock onto cars.
No. 7—Train loaded with saw logs.

No. 8—Bull pen reaching from shore into the river.
No. 9—Derricks hoisting saw logs in the woods.
No. 10—Unloading trestle at river's side.

dirt that may have accumulated during the chipping of the tree or transportation of the gum to the still. Through the strainer it flows into a large vat and, while still hot, is barreled.

A charge of thirty-five barrels of gum will make about seven barrels of spirits and twenty barrels of rosin. A cooperage is run in connection with the still and the barrels that are used for the rosin are manufactured there of waste pine strips. After the spirits and rosin are barreled they are shipped either by rail or water to the naval stores yard, where they are inspected, graded and registered by an inspector appointed by the state. If the spirits have been adulterated they are turned down and confiscated by the state and the shipper is prosecuted under the law governing the adulteration of spirits. Before the state had these inspectors the spirits were frequently adulterated with kerosene oil, sometimes to the extent of 33½ per cent.

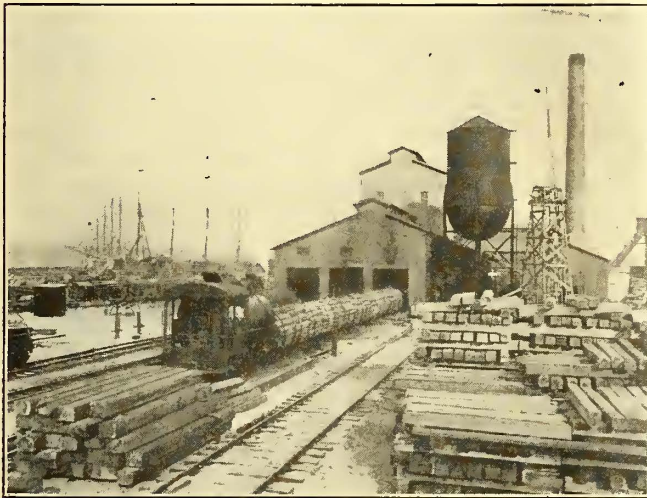
The same inspectors inspect the rosin. When the rosin arrives at the naval stores the barrels are turned on end and have their heads knocked off. The rosin is

its strength by evaporation. It is claimed that pure turpentine can be seen in the jar on top of the crude turpentine and gum, and this is wasted under the first described system of collection. By this method two barrels of crude turpentine and gum will make one barrel of spirits. The principal markets for turpentine and rosin are Jacksonville, Fla.; Savannah, Ga.; Charleston, S. C., and New Orleans, La.

LARGE, STRAIGHT TREES NECESSARY FOR PILING

After the trees have passed their usefulness for naval stores the woods then become the field of activity for the lumber industry. The trees are inspected by the foreman of the logging camp, who can tell just what they are best suited for. If the tree is large and straight he will select it for a pile and will put his pile mark on the bark with a knife or axe.

After being felled the tree is peeled of its bark and inner bark or cambia. A large two-wheeled wagon drawn by either a yoke of oxen or a team of mules carts it to the river-front or railroad track. If to water, when



TIES GOING INTO CYLINDERS FOR TREATMENT



TIES STACKED IN PILES FOR SEASONING

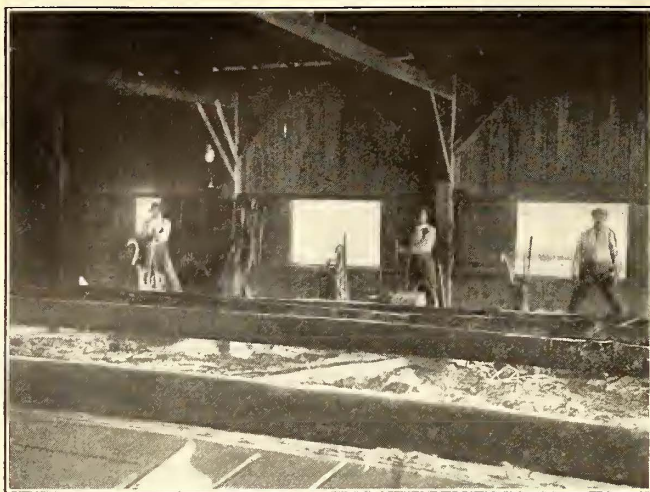
spiked or broken to a depth of 5 in. and a 1-in. cake is cut from each barrel as a sample. The inspector compares this cube with the standard grade and gives each barrel its proper marking. There are twelve grades of rosin, the grades running from a very pale amber color to a very dark opaque brown. The inspectors have nicknamed them so as to remember them and also as a sort of private code. They call Grade W.W., Water White; W.G., Window Glass or William; N., Nancy; M., Mary; K., Kate; I., Isaac; H., Henry; G., George; F., Frank; E., Ed.; D., Dolly, and B., Betsy.

After the inspection has been completed the barrels are sealed up again and either shipped or stored, depending on the condition of the market at the time. The cotton batting waste from the still is used to make acetic acid and is also found useful for starting the boiler fires.

There is also another system known as the "Gilmer System" for extracting the turpentine from the tree. Under this system the tree is not chipped or boxed. A ¾-in. hole is bored into the sap-wood and is covered with a metal cap. Attached to the cap is a 3-in. metal lead and another cap which fits over a glass jar, making an airtight conductor for the turpentine from the time it leaves the tree until the jar is filled. The turpentine in the jar, being protected from the air, loses none of

about one hundred and fifty have been assembled, they are rafted together and towed down the river by a small tug or launch to the sawmill or creosoting plant, as the case may be. Here they are removed from the water by a large steam crane. An accompanying view shows the plant of a large creosoting concern at Jacksonville, Fla., where two rafts of piling are being unloaded at the dock. If they are to be used for piles, they are inspected and stamped and then loaded on bolster bale cars, and when a batch of three cars is made up they are pulled out in the yard and run into the cylinder for treatment.

Should the tree be very large or should there be no piling orders the tree is cut down for saw logs. Most of the large timber camps have short railroads of their own starting at their dock and running back into the woods where the cutting of trees is being done. The logs are hauled to this track by the two-wheeled wagons above described, are there loaded on the saw-log train by a large steam crane and hauled away to the dock or landing, where they are bundled and rafted for towing to the mill. The sawmill generally has a large pen reaching from the shore out into the river, called a bull pen. The saw logs are pushed into this pen and left there to be handled by the mill crew. The saw logs ride up an incline on an endless chain conveyor into the mill,



TRAVELING LOG CARRIAGE IN MILL



WORKMEN HEWING CROSS TIES IN WOODS

where they slide off on an inclined platform. Here they are either held or dropped off on the saw carriage.

From experience the sawyer knows exactly what the log will cut to as soon as he sees it and immediately clamps the log to the carriage. The carriage travels down past the saw and the log is sawed on one side and then turned to be sawed on the other side coming back. This is repeated until all four sides are sawed. The bark and waste wood falls off and slides along on rollers to the resaw mill. This wood is then resawed into inside trim, scantling, laths and other small material, while the bark, sawdust and slabs are used for fuel. After the saw logs have been sawed they are graded. The prime goes out one way, the merchantable and standard another. The merchantable and standard grades are the ones which are usually creosoted.

If the tree is quite small or is not suited for a piling or saw log it will be cut down and hewn into ties. Most of the trees will make two standard heart ties, 7 in. x 9 in. x 8 ft. 6 in., and from two to four 6-in. x 8-in. x 8-ft. sap ties. The ties are carted to the railroad or riverfront and shipped to the creosoting plant, where they are unloaded and stacked to season for at least three months. After seasoning they are inspected, branded and loaded on bale cars and when a batch of sixteen cars, containing from 800 to 900 ties, has been loaded they are pushed into the cylinder for treatment.

The only part of the tree that is left in the woods is the stump or butt of the trunk, and these are blown up with dynamite and cut into small pieces and loaded on small cars. These cars are run into brick retorts which are heated by fire underneath. The spirits and moisture escape in the form of steam through an outlet pipe at the top and pass through a cold worm and are collected and distilled in about the same way as at the still. After being distilled it is pumped up into a large tank for storage or barreled up for shipment. If the distillation has been correctly carried on there results a turpentine that contains about 2 per cent water and is known as wood turpentine. It will dissolve rosin just like water does sugar.

After the distillation the retorts are opened and the wood is transferred to charcoal ovens. The gases pass out through the top in the form of a dense black smoke while the pitch runs out through a small pipe at the bottom into a vat and while still hot is barreled. So that the only parts of the tree that have not been used are the needles and the gases that escape.

One cannot but be impressed by the scale of operations on any large lumbering project, as well as with the limitations of the present supply of timber for the various purposes for which it is being cut, of which the most serious question, from the point of view of the electric railway industry, is that of ties, poles and piling. A realization of the desirability of conserving the present supply as much as possible forces itself upon the observer at once, and the principal way in which this can be accomplished is, of course, by treatment of the timber to prevent its principal cause of destruction—decay.

Conservation of the present supply can also be aided through careful engineering design of our structures; that is, by using the minimum sizes and lengths consistent with good engineering practice. It is believed that many timber structures have been erected in the past by rule of thumb methods or in accordance with arbitrary designs, as the result of which considerable excess timber has been used over that actually required to carry the desired loads, this frequently being done so as to provide for the subsequent loss in strength due to partial decay and to postpone the day when complete removal becomes necessary. It must also be remembered in this connection that the smaller sections not only contain less lumber per unit of length but that the unit price per thousand feet board measure is also usually much less, and this total difference in cost would partly offset the cost of treating the smaller sizes actually required. The economy of using treated timber where failure is caused by decay and the large increase in prices of all kinds of untreated timber are the principal factors which are bringing about the more extended use of wood preservatives, and this use is bound to increase in the future as greater need for substitutes for timber is felt.

It would also be well to emphasize the importance of proper seasoning. The sap in the cells of the wood must be largely removed so as to eliminate as far as possible the moisture in the wood structure, which is one of the essential requirements for the growth of the wood-destroying fungi. Then, too, this moisture must be removed in order to provide space and reservoirs for the wood preservative and to insure its penetrating far enough into the wood to accomplish the desired results. In some methods of treatment the aim is to fill the cells with the preservative oil, while in others the aim is merely to thoroughly coat the cell walls. Whatever may

be the method employed, this moisture must first be removed in some way, and for this reason seasoning before treatment is considered highly essential to most satisfactory treatment, since cracks develop during the seasoning process, whether in air or steam. If these cracks develop after treatment, as is likely to be the case where treatment is made without proper seasoning, the inner or untreated portions of the wood will be exposed and decay of the exposed portions will probably soon follow, thus largely nullifying the benefits derived from the treatment given.

New Cars for Frankford "L"

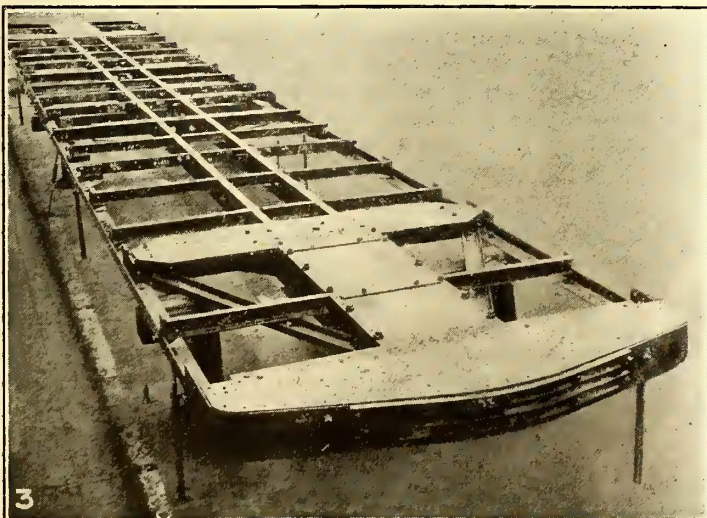
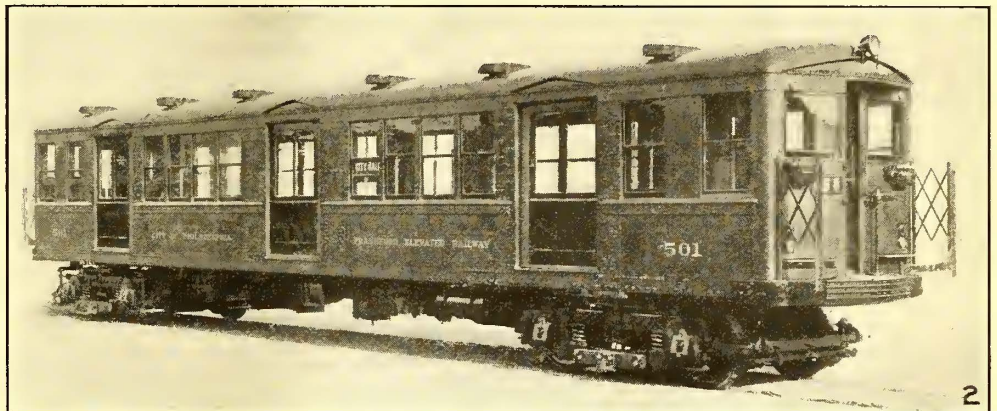
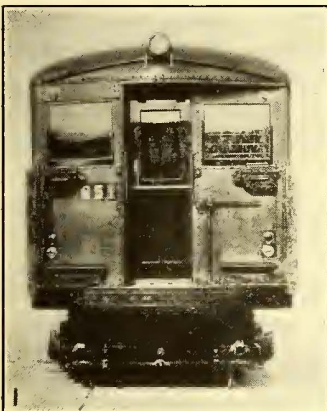
All-Steel Cars 55 Ft. Long Have Seating Capacity of Fifty-one—Doors Are Fitted with Electric Contact Tripping Shoes to Prevent Danger of Injury to Passengers

WHEN the order for the new cars of the Frankford Elevated Railway, Philadelphia, Pa., was placed with the J. G. Brill Company last February it was the intention to build 100 cars for this service. This number was later reduced so that the first equipment being constructed consists of fifty all-steel elevated cars with three doors on each side. There are four windows between the center door and each end door and two additional windows between the end doors and the ends of the car. The side windows are equipped with double sash, the lower part of which is stationary and the upper arranged to drop. Arch-type roof construction has been used with twelve ventilators of the Railway

Utility Company's honeycomb type, located six on either side. These ventilators are welded in place and are equipped with registers which may be opened and closed as desired.

At diagonally right-hand corners there is a motor-man's compartment with a hinged door for entrance and exit from the interior of the car body. This door is arranged to fold back so as to cover the operating mechanism when not in use. The train door at each end of the car and the six side doors are of the single sliding type hung on ball-bearing hangers which operate on tracks. All side doors are 4 ft. wide. This allows plenty of space for incoming and outgoing passengers. The doors are equipped with the National Pneumatic Company's latest type of door-operating equipment, so arranged that all doors of each car are operated from one end of the car, which admits of train operation with a guard or conductor placed between alternate cars. The doors are controlled either in unison or separately by push buttons located at a convenient place for the train guard and are all fitted with the latest type of electric contact tripping shoe so arranged that if the closing door touches a passenger it is immediately reversed, thus obviating any danger of injury to the passenger.

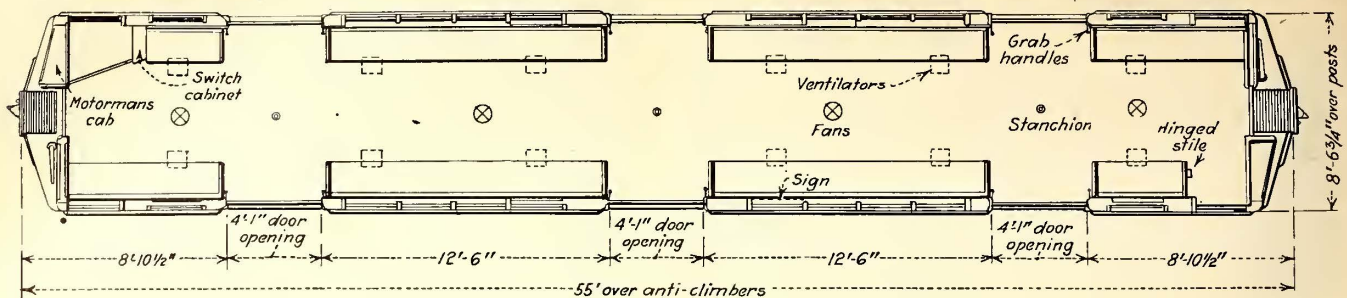
On each door post is a single push button so the station platform guard can close any individual door as desired. At a convenient position at each end of the car are located indication lamps to advise the train guard or conductor when the doors of his particular car are closed, and the same lamp located at the front end of



UNDERFRAME AND COMPLETED CAR WITHOUT COUPLERS FOR FRANKFORD "L"

No. 1—End view of new car.
No. 2—Exterior of Frankford Elevated Railway car previous to installation of couplers.

No. 3—Underframe of car in course of construction.
No. 4—Longitudinal seats provide plenty of space for standing passengers.



FLOOR PLAN OF FRANKFORD ELEVATED RAILWAY STEEL CAR

the train, in a convenient position for the motorman, will indicate when all doors of the train are closed.

In the accompanying tables are listed some of the important details of these cars.

TABLE I—DIMENSIONS AND EQUIPMENT WEIGHTS

Length over anti-climbers	55 ft. 0 in.	Height from rail to under-side of side sills	3 ft. 3 3/4 in.
Length over corner posts	51 ft. 11 1/2 in.	Truck wheelbase	6 ft. 8 in.
Width over all	8 ft. 6 in.	Diameter wheels	34 in.
Length over bolster centers	38 ft. 0 in.	Wheel tread	4 1/2 in.
Center to center of side posts	2 ft. 4 1/2 in.	Wheel flange	1 in. x 1 1/2 in.
Width of side door openings	4 ft. 0 in.	Seating capacity	51
Height from rail over roof	12 ft. 0 in.	Weight of car body	38,500 lb.
Height from rail to top of floor	3 ft. 11 1/2 in.	Weight of trucks	30,000 lb.
		Weight of equipment	17,500 lb.
		Total weight	86,000 lb.

One of the underframes for these cars is shown in an accompanying illustration. The principal members of the underframe include side sills of 5 x 3 1/2 x 3 in. angles, two center stringers of 8-in., 18 3/4-lb. channels, and sills of built-up type with crossings of 4-in. channel except in two cases where built-up needle beams are used.

The side, window, and door posts are built up in tubular form of steel 1/2 in. thick and the sides are sheathed with steel of the same thickness. The roof construction consists of 1/8-in. thick steel plates extending across the entire roof and spliced at carlines by butting sheets, riveted to carlines and welded at joints. These roof plates are also riveted at their ends to the top rail angles and to the top of letterboards.

The headlining is of 1-in. Agasote with sheet-steel molding at the joints. The advertising card racks which extend the full length of the car are also of sheet steel. The flooring consists of flexolith composition laid on chanarch galvanized corrugated steel to a total thickness of 1 1/4 in. As shown in the illustration of the

TABLE II—EQUIPMENT DETAILS OF FRANKFORD CARS

Air brakes	Westinghouse Traction Brake Company's Type A.M.U.E.
Motors	Two G. E. Co.'s No. 259.
Control Equipment	Westinghouse Electric & Manufacturing Company's type A.B.F.
Bumpers	9-in. face with 7-in., 10.28-lb. Hedley anti-climbers.
Couplers	Van Dorn air and electric type.
Destination signs	Electric Service Supplies Company's Keystone.
Handbrakes	Brill horizontal handle.
Heater equipment	Consolidated Car Heating Company's panel type.
Headlights	Electric Service Supplies Company's Golden Glow S.H. 74.
Step tread	Universal.
Trucks	Brill 27-MCB-3, motor and trailer, with oil retaining center plates.
Ventilators	Railway Utility Company's Honeycomb.
Seats	Brill longitudinal upholstered in rattan.
Curtains	No side curtains. Door of motorman's compartment equipped with Pantasote curtain.
Third rail shoe	Champion.

interior of these cars the seating is longitudinal. An upright stanchion is provided opposite the center pair of doors and grab handles at each side of all side doors. These grab handles and the center stanchions are of 1-in. porcelain enamel pipe. A full equipment of sanitary hand straps are provided and there are two Brill signal bells in each car, one in each motorman's compartment. The lighting consists of two rows of lamps down the sides of the car and directly over the seats.

Illinois Committee Continues to Inform

FOLLOWING its custom of issuing interesting and instructive pamphlets on utility problems for the benefit of the public, the Illinois Committee on Public Utility Information has recently published another booklet giving "Its History, Purpose and Work." The various activities of the committee, its relation to newspapers, its co-operation with other organizations, its relation with universities and colleges in their quest for utility information are explained and reviewed.

The last page of the booklet contains six suggestions which are offered by the committee and which "would be of benefit both to the utility companies and to customers in bringing about the establishment and continuance of a proper relationship."

The Illinois Committee on Public Utility Information was formed in April, 1919, under the auspices of the Illinois State Electric Association, Illinois Gas Association, Illinois Electric Railway Association, Illinois Independent Telephone Association and all other telephone interests in the state. It was announced at that time that its purpose was "to inform the public on the fundamentals, and particularly the economics, of the public utility industry."

Utilities Now Co-operate with Papers

THE co-operation in giving and gathering public utility information which has recently developed between public utilities and newspapers has opened a new field in news, according to Stanley W. Bogert, managing editor of the Philadelphia *Public Ledger*. In a letter to James M. Bennett of the United Gas Improvement Company of Philadelphia, Pa., Mr. Bogert makes clear that information regarding public utilities is considered by business men and the general reader to be valuable. He hails the passage of the old era when public utility companies regarded newspapers with suspicion and would give no information, and the period following in which the companies flooded the newspaper offices with propaganda. The letter, which is indicative of the attitude the daily papers are taking toward the establishment of state committees on public utility information, is, in part, as follows:

What you have done here in frankly and freely supplying us with news demonstrated that the utility companies, the newspapers and the public can benefit from a free discussion of these matters.

It used to be that some of the utilities, or those who represented them officially, would have nothing to do with the newspapers or the public. There is a new basis of news relationship now in many instances, however. You have been a part of this new order, just as the Illinois Committee on Utility Information and Captain Ling of the Ohio Committee on Public Utility Information.

The thing that strikes home is the abandonment, under the new order, of the propaganda idea; that you and some others are ready to supply news minus propaganda; that you have been willing to supply, upon request, information which in the past, by custom, would have been denied. It is just a fair way of doing things.

There is almost a new field in utility news. The utilities certainly are very close to the public and it can do no harm to keep the public advised of their progress, their needs, etc. It would be fine if this news could be put out more generally on the real news basis which you are following.

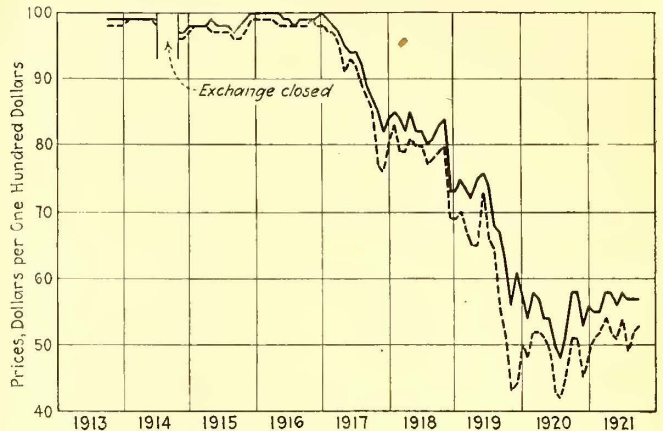
Statistics of New York Railways

Tables and Charts Presented at the Hearings Before the New York Transit Commission by the Commission's Chief Accountant Give Interesting Facts in Regard to the City's Largest Transportation Companies

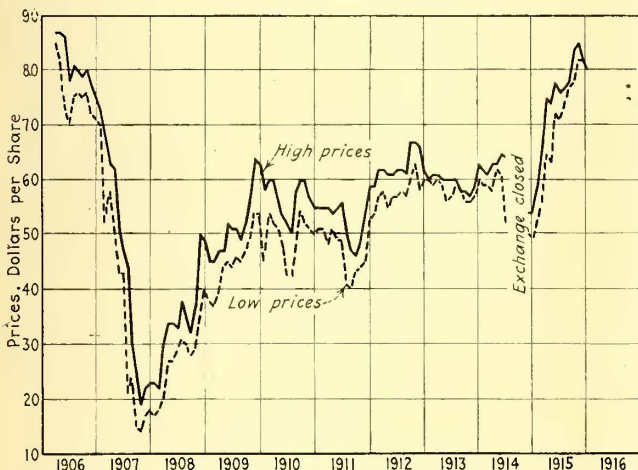
THE accompanying tables and graphs are from a number presented at recent hearings before the New York Transit Commission by the chief accountant for the commission, Frederick W. Lindars. The figures and graphs in general speak for themselves, but a few comments may be of assistance.

In Table I the roads included under the Brooklyn Rapid Transit System, Third Avenue System, New York Railways System, etc., are the same as given in Table II, although it should be understood that in several cases the roads grouped with the Brooklyn Rapid Transit and the New York Railways systems include roads now operated independently.

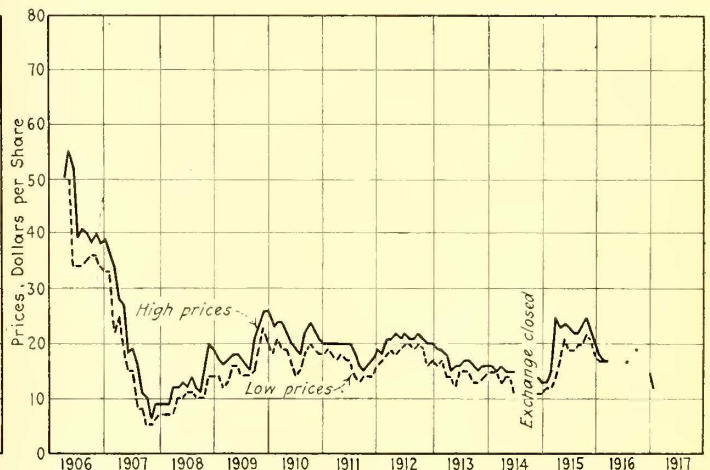
The figure given in Table I as "passenger fare per revenue passenger" is obtained by dividing the receipts from all passengers by the number of passengers paying the initial fare. Thus, on the New York Railways,



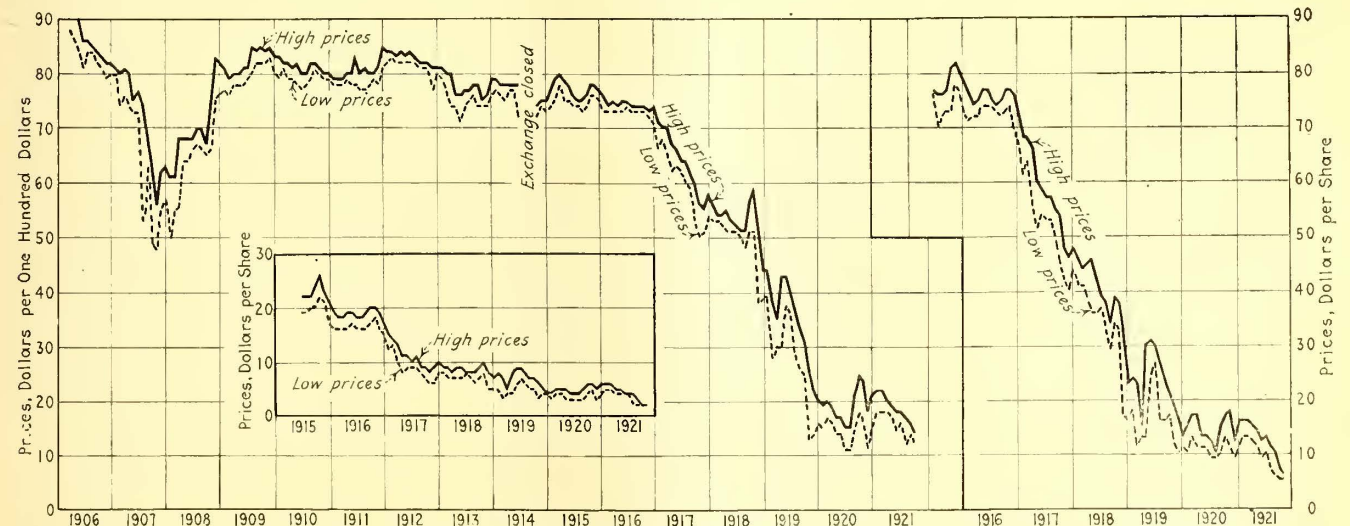
Prices of the 5 per cent first and refunding mortgage bonds of the Interborough Rapid Transit Company, 1913 to 1921 inclusive.



At left, Interborough-Metropolitan preferred stock, 1906 to 1916. The two points in October, 1916, represent isolated transactions.



At right, Interborough-Metropolitan common stock (including trust certificates), 1906 to 1917. The two points in the latter part of 1916 and the line in the early part of 1917 represent isolated transactions.



The long graph at the left gives the prices of the Interborough-Metropolitan collateral trust 4 1/2 per cent bonds from 1906 to 1921. The graph in the panel below shows the prices of the Interborough-

Consolidated common stock (voting trust certificates) from 1915 to 1921. The graph at the right shows the prices of the Interborough-Consolidated preferred stock from 1915 to 1921.

THESE GRAPHS SHOW BY MONTHS THE HIGH PRICES (BY SOLID LINE) AND THE LOW PRICES (BY DOTTED LINE) FOR VARIOUS SECURITIES OF TRACTION PROPERTIES IN NEW YORK

TABLE I. REVENUES, ETC., OF THE RAPID TRANSIT AND SURFACE RAILWAYS IN NEW YORK CITY
(The figures given are in cents per revenue passenger and are for the fiscal year ended June 30, 1921)

Revenues:	Total All Companies	I. R. T. (Subway)	I. R. T. (Elevated)	B. R. T. (Subway and Elevated)	B. R. T. Surface	Third Avenue System	Second Avenue Railroad	New York Railways System	Queens Surface Lines	Staten Island Surface Lines	Hudson and Manhattan	Miscellaneous Brooklyn Surface
Passenger fares.....	5.07	5.00	5.00	5.00	4.89	4.86	4.90	5.11	5.10	6.90	7.45	2.62
Advertising, sale of power, etc.....	0.42	0.45	0.40	0.18	0.29	0.98	0.30	0.47	0.14	0.05	0.46	0.92
Interest and dividends on investments, rentals from real estate, etc.....	0.22	0.09	0.02	0.11	0.14	0.56	0.01	0.89	0.02	0.38	0.24	0.04
Total revenue.....	5.71	5.54	5.42	5.29	5.32	6.40	5.21	6.47	5.26	7.33	8.15	3.58
Deductions from revenue:												
Operating expenses.....	4.30	3.41	3.79	4.62	4.78	4.58	5.24	5.44	5.63	7.80	4.12	3.17
Taxes.....	0.30	0.07	0.61	0.27	0.25	0.34	0.52	0.46	0.24	0.31	0.50	0.44
Interest.....	1.05	1.24	0.63	0.51	0.83	1.47	1.02	0.82	0.96	1.09	4.13	0.35
Rents.....	0.65	0.38	1.74	1.04	0.18	0.27	0.01	0.64	0.24	0.20	0.10	0.48
Miscellaneous deductions.....	0.13	0.26	0.13	0.00+	0.00+	0.36	....	0.04	0.00+	....	0.10	0.02
Total operating expenses, etc.....	6.43	5.36	6.90	6.44	6.04	7.02	6.79	7.40	7.07	9.40	8.92	4.46
City's interest and sinking fund (a).....	0.46	0.73	....	1.66	....	....	....	....	....	....	....	....
Estimated cost to restore free transfers, etc. (b).....	0.36	....	....	....	1.54	....	0.07	1.17	0.02	0.37	....	....
Total deductions.....	7.25	6.09	6.90	8.10	7.58	7.02	6.86	8.57	7.09	9.77	8.92	4.46
Deficiency in revenue.....	1.54	0.55	1.48	2.81	2.26	0.62	1.65	2.10	1.83	2.44	0.77	0.88
(a) Contract No. 3, \$4,675,000												
Contract No. 4, 6,730,000												
Total,	\$11,405,000											

TABLE II. SCHEDULE OF CAPITAL STOCKS OUTSTANDING JUNE 20, 1921, AND DIVIDENDS PAID BY RAPID TRANSIT AND SURFACE RAILWAY COMPANIES IN NEW YORK CITY, YEARS 1912 TO 1921, INCLUSIVE

Company	Class	Capital Stock Outstanding	Percentage of Dividends Paid									
			1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Third Avenue Railway System:												
New York City Interborough Ry. Co.	Common	\$5,000,000	0	0	0	0	0	0	0	0	0	0
New York, Westchester & Conn. Traction Co.	Common	2,000,000	0	0	0	0	0	0	0	0	0	0
Pelham Park & City Is. Ry. Co.	Common	45,000	0	0	0	0	0	0	0	0	0	0
Southern Boulevard Ry. Co.	Common	250,000	0	0	0	0	0	0	0	0	0	0
Union Railway of New York	Common	2,000,000	0	0	0	0	0	0	0	0	0	0
Bronx Traction Co.	Common	58,100	0	0	0	0	0	0	0	0	0	0
Westchester Electric R.R. Co.	Common	500,000	0	0	0	0	0	0	0	0	0	0
Yonkers Railroad Co.	Common	1,000,000	0	0	0	0	0	0	0	0	0	0
Belt Line Ry. Corp.	Common	734,000	0	0	0	0	33½	0	0	0	0	0
Brooklyn North R.R. Co.	Common	100,000	0	0	0	0	0	0	0	0	0	0
Dry Dock-E. Bway. & Battery R.R. Co.	Common	1,200,000	0	0	0	0	0	0	0	0	0	0
42nd St., Manhattanville & St. Nicholas Ave. R.R. Co.	Common	2,500,000	0	0	0	0	0	0	0	0	0	0
Kingsbridge Railway Co.	Common	8,600	0	0	0	0	0	0	0	0	0	0
Mid Crosstown Railway Co.	Common	150,000	0	0	0	0	0	0	0	0	0	0
Third Ave. Railway Co.	Common	16,590,000	0	0	0	0	0	1	0	0	0	0
Third Ave. Bridge Co.	Common	20,000	0	0	0	0	0	0	0	0	0	0
New York Railways System:												
Broadway-Seventh Ave. R.R. Co.	Common	2,100,000	12½	10	10	10	10	10	10	2½	0	0
42nd & Grand St. Ferry R.R. Co.	Common	748,000	26	18	18	18	18	18	18	4½	0	0
Fort George & 11th Ave. R.R. Co.	Common	3,000,000	0	0	0	0	0	0	0	0	0	0
Twenty-third St. Ry. Co.	Common	600,000	18	18	18	6	18	18	18	4½	0	0
Bleecker St. & Fulton Ferry R.R.	Common	900,000	1½	1½	1½	1½	1½	1½	1½	0	0	0
34th St. Crosstown Ry. Co.	Common	1,000,000	0	0	0	0	0	0	0	0	0	0
Christopher & Tenth St. Ry. Co.	Common	650,000	8	8	8	8	8	8	8	2	0	0
Sixth Ave. Railroad Co.	Common	2,000,000	7	8½	7	7	7	7	7	1½	0	0
New York Railways Co.	Common	17,495,060	0	0	0	0	0	0	0	0	0	0
Eighth Avenue Railroad Co.	Common	1,000,000	16	16	16	16	16	16	16	8	0	0
Ninth Avenue Railroad Co.	Common	800,000	8	8	8	8	8	8	8	4	0	0
New York & Harlem Railway Co. (a)	Common	8,656,050	21	14	14	14	14	14	14	12	10	5
	Preferred	1,343,950	21	14	14	14	14	14	14	12	10	5
Independent Railways System:												
Manhattan Bridge 3c. Line	Common	450,000	0	0	6	6	1½	0	3½	5	5	2½
Manhattan Railway Co.	Common	60,000,000	7	7	7	7	7	7	7	7	7	7
Interborough Consol. Corp.	Common (c)	932,626.92	0	0	0	0	0	0	0	0	0	0
	Preferred	45,740,500	0	0	0	3	6	6	3	0	0	0
Second Avenue R.R. Co.	Common	1,862,000	0	0	0	0	0	0	0	0	0	0
Bush Terminal R.R. Co.	Common	20,000	0	0	0	0	0	0	0	0	0	0
Marine Railway Co.	Common	50,000	0	0	0	0	0	0	0	0	0	0
Van Brunt St. & Erie Basin R.R.	Common	200,000	5	6	4	4	4	5	5	5	5	2
Interborough Rapid Transit Co.	Common	35,000,000	16	12	15	20	20	20	17½	5	0	0
Brooklyn Rapid Transit System:												
Brooklyn Heights R.R. Co.	Common	200,000	0	0	0	0	0	0	0	0	0	0
Bridge Operating Co.	Common	100,000	6	6	6	6	6	6	6	6	6	6
Brooklyn, Queens County & Suburban R.R. Co.	Common	2,000,000	1	15	10	5	5	2½	2½	0	0	0
Coney Island & Gravesend Ry. Co.	Common	350,000	5	10	5	5	5	5	10	0	0	0
Coney Island & Brooklyn Ry. Co.	Common	2,983,900	0	0	6	7½	6	6	6	6	0	0
DeKalb Ave. & North Beach R.R. Co.	Common	10,000	0	0	0	0	0	0	0	0	0	0
Nassau Electric Ry. Co.	Common	8,500,000	0	0	0	0	0	0	0	0	0	0
	Preferred	6,500,000	4	8	6	4	4	4	2	0	0	0
South Brooklyn Ry. Co.	Common	500,000	0	0	0	0	0	0	0	0	0	0
Prospect Park & Coney Is. R.R. Co.	Common	250,000	0	0	0	0	0	0	0	0	0	0
Prospect Park & So. Bklyn. R.R. Co.	Common	50,000	5	0	0	0	0	0	0	0	0	0
New York & Coney Is. R.R. Co.	Common	100,000	5	0	0	0	0	0	0	0	0	0
Brooklyn Rapid Transit Co.	Common	(b)74,520,000	5	5½	6	6	6	6	3	0	0	0
	Preferred	13,900,000	0	5	7	10	10	10	10	5	2½	0
	Common	5,000,000	0	5	7	10	10	10	10	5	2½	0
New York Consolidated R.R. Co.	Common	200,000	0	0	0	0	0	0	0	0	0	0
New York Municipal Ry. Corp.	Common	200,000	0	0	0	0	0	0	0	0	0	0
Brooklyn City R.R. Co.	Common	12,000,000	8	8	8	8	8	8	10	10	2½	0
Queens County Lines:												
Long Island Electric Ry. Co.	Common	600,000	0	0	0	0	0	0	0	0	0	0
Manhattan & Queens Traction Co.	Common	20,000	0	0	0	0	0	0	0	0	0	0
New York & Long Is. Traction Co.	Common	750,000	0	0	0	0	0	0	0	0	0	0
	Preferred	250,000	0	0	0	0	0	0	0	0	0	0
New York & North Shore Tr. Co.	Common	979,350	0	0	0	0	0	0	0	0	0	0
New York & Queens Co. Ry. Co.	Common	3,235,000	0	0	0	0	0	0	0	0	0	0
Ocean Electric Railway Co.	Common	35,000	0	0	0	0	0	0	0	0	0	0
Staten Island Lines:												
Richmond Light & R.R. Co.	Common	2,871,750	0	0	0	0	0	0	0	0	0	0
Southfield Beach R.R. Co.	Common	250,000	0	0	0	0	0	0	0	0	0	0
Staten Is. Midland Ry. Co.	Common	1,000,000	0	0	0	0	0	0	0	0	0	0

(a) The New York & Harlem Railway Co. also owns a steam railroad, which is leased to the New York Central Railroad.
(b) The outstanding capital stock of this company in 1912 was \$44,837,217.98; in 1913, \$49,013,217.98; in 1914 to 1916, inclusive, \$74,455,217.98; in 1917, \$74,455,212.98; in 1918 and 1919, \$74,455,159.37. (c) Number of shares with no par value.

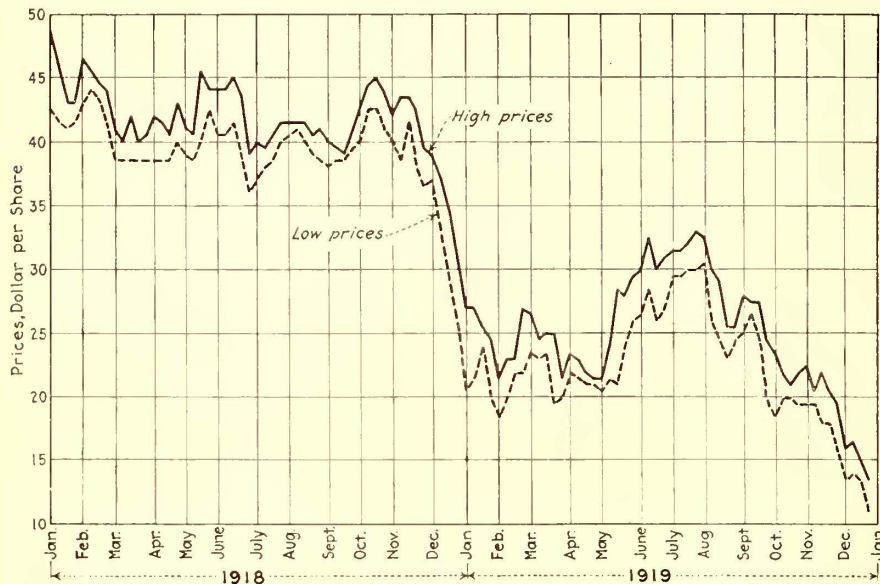
TABLE III. RAPID TRANSIT AND SURFACE RAILROAD COMPANIES—NEW YORK CITY. STATEMENT BY COMPANIES SHOWING THE OUTSTANDING CAPITALIZATION AS AT JUNE 30, 1921, IN THE HANDS OF THE PUBLIC, TOGETHER WITH MARKET VALUES THEREOF AS AT SEPT. 1, 1921

					Amount Outstanding June 30, 1921—(Par Value)						
Name of System and Description of Securities	Int. or Div. %	Year of Issue	Year When Due	Total Held by Public	Market Price Sept. 1, 1921	Name of System and Description of Securities	Int. or Div. %	Year of Issue	Year When Due	Total Held by Public	Market Price Sept. 1, 1921

NOTE.—Dividend rate given for stock, in general, is the annual rate at which last dividend was paid. The complete table presented in the testimony gives the dates on which the payment of interest and dividends was discontinued, where that has been the case.

where the initial fare is 5 cents and the charge for a transfer is 2 cents, an average fare of more than 5 cents per revenue passenger is shown. Variations from 5 cents in the case of other lines may be explained, at least in part, as follows:

The Brooklyn Rapid Transit surface lines have a 3-cent fare for school children. The method of accounting on the Third Avenue system between the lines within the system, where a transfer is given, is to credit each line with half the fare. The Second Avenue Railroad follows this practice with the New York Railways. The Queens Surface Lines includes one company with fares as high as 25 cents. The Richmond Light & Railroad Company on Staten Island has an initial fare of 8 cents. The Hudson & Manhattan Railroad charges 5, 6 and 10 cents. The "miscellaneous Brooklyn surface lines" include the Manhattan 3-cent fare line, which sells two tickets for 5 cents, and other low fare lines.



THIS GRAPH SHOWS THE PRICES BY WEEKS DURING THE YEARS 1918 AND 1919 OF THE CAPITAL STOCK OF THE BROOKLYN RAPID TRANSIT COMPANY

Table II shows the amount of capital stock outstanding for each company operating in New York City, together with the rates of dividends paid in each year from 1912 to 1921 inclusive. In the majority of cases dividends began to cease in 1919, when receiverships were instituted and the insufficiency of revenues began to produce large operating deficits. Table III gives the amount of securities in the hands of the public and the approximate market quotations on the date given.

The dividends paid by subsidiary companies within the large systems, such as the Eighth Avenue Railway, within the New York Railways System were produced through the medium of guaranteed rentals. The failure to meet these rentals caused some of the subsidiary companies to take back their property and resume direct operation, notably the Eighth, Ninth and New York & Harlem lines of the New York Railways System, and the Brooklyn City Railroad Company lines of the Brooklyn Rapid Transit System.

Graphs of market quotations are shown on pages 1065 and 1068. The graphs of the Interborough securities were prepared primarily to show the effect on the market prices of the securities by the changes in the dividend policy of the company. The Brooklyn Rapid Transit graph was prepared primarily to show the effect on prices following the cutting off of dividends (December, 1917) and prior to the receivership (December, 1919).

Some Aspects of the Revenue Act of 1921

In Some Respects, Aside from the Repeal of the Excess Profits Tax and Changes in the Rates, the New Act Will Yield Substantial Relief to the Business Man and the Investor

BY ROBERT MURRAY HAIG, PH.D.
School of Business, Columbia University

AMONG the numerous changes made by the new tax bill signed by President Harding on Nov. 23, five stand out as of great importance from the point of view of the business man and the investor. These are:

1. The abolition of the excess profits tax as of the beginning of next year, coupled with an increase in the income tax on corporations at that time from 10 per cent to 12½ per cent.

2. The reduction in the surtax rates on individual incomes which comes into effect at the same time.

3. The establishment, with the beginning of next year, of a new class of income to be known as capital gain, which will be subject to a maximum rate of 12½ per cent.

4. The broadening of the definition of the "closed transaction," effective for the current year, which makes possible many exchanges of property for property without subjecting the gain to taxation.

5. The recognition, beginning this year, of a net loss from one year's operation as an offset against any profits which may accrue in the two following years.

The first two changes, the repeal of the profits tax and the changes in the rates, have been the subject of wide comment, but the other changes, being of a somewhat more technical character,

have been less discussed and their significance less fully appreciated.

In spite of great pressure, Congress finally declined to repeal the profits tax for 1921, but did agree to abolish it thereafter. With it disappears the "personal service corporation," a special class established to care for certain corporations which it was desired to exempt from profits taxation. When the profits tax goes, the income tax rate on all net income of corporations rises from 10 to 12½ per cent. The change in the rate will cause corporations which make only moderate profits to pay slightly heavier taxes, but the total tax burden on corporate income will be much lighter. The official estimates of revenue under the new bill call for \$1,030,000,000 from this source (ignoring back taxes) this fiscal year and only \$695,000,000 for the next fiscal year, when the changes will be in force.

REDUCTION OF SURTAX RATES

The surtax rates on individual incomes are scheduled for reduction beginning with the first of next year. A comparison of the new scale with the old is difficult to make. It should be made clear, however, that the change affects small taxpayers as well as large ones. The maximum rates remain very high—50 per cent as compared with 65 under the old law. The 50 per cent rate applies to all income in excess of \$200,000. The old

rate, which applied to the increment of income above \$200,000, was 60 per cent. Surtaxes in the future will not begin until the \$6,000 point is reached and will be 1 per cent for income between \$6,000 and \$10,000. Under the old law, the surtaxes begin at \$5,000 and mount by more rapid steps. There are also slight changes in the personal exemptions, effective at once. According to the revenue estimates these changes will not provide much relief for the individual taxpayers, for the government expects to get \$780,000,000 next year with the changes in effect as compared with \$850,000,000 this year.

NEW CLASS OF "CAPITAL GAINS"

The most revolutionary section in the new act is Section 206, which sets up a new division of income. After the first of next year money made by individuals by selling or exchanging property "held for profit or investment" is subject to a maximum rate of 12½ per cent, instead of the regular rates, which range as high as 58 per cent (normal plus surtaxes). This is hedged about by several restrictions. The individual may not take advantage of the permission to use the 12½ per cent rate unless he is willing to pay at least 12½ per cent on his other income as well. The property "held for profit or investment" must have been so held for more than two years and may not include property "held for the personal use or consumption of the taxpayer or his family," or property which properly is subject to inventory. It is not necessary, however, that the property be connected with his trade or business.

The reason for the adoption of some such section as this is plain, whatever one may think of the wisdom of choosing this particular method of meeting the situation. As every one knows, many sales of property have been postponed or entirely blocked by the unwillingness of prospective sellers to take their profits when they would immediately become subject to heavy surtaxes. This, of course, handicapped business. The solution adopted was practically to wipe out the offensive surtaxes on profits from this class of transactions.

One anomalous result of the selection of this solution, however, is that under this new arrangement a dollar of profit made from property which has grown in value is taxed at the maximum only 12½ cents, whereas a dollar made otherwise may be taxed as much as 58 cents. For example, in the case of a bond bought at a discount and sold at a profit, every dollar of interest on the bond may pay a tax nearly five times as great as every dollar of appreciation in the value of the bond, a fact which is likely to effect profoundly future methods of corporate financing.

Much more could be said regarding the effects of this new section from the points of view of equity and of administration, but what is of particular interest here is to point out the very substantial relief granted by it to investors in property which appreciates in value.

THE "CLOSED TRANSACTION"

The advantage to the investor in property which is gaining in value, conferred by the section just described, is accentuated by the liberal provisions governing the "closed transaction." (Section 202.) This has long been a troublesome section of the field of income tax procedure. When one exchanges property for cash, no question arises. The transaction is "closed" and one accounts for his gain to the tax collector. But when one barter instead of sells, receiving other property

instead of cash for his property, very serious questions arise. There are sometimes differences of opinion as to the value of the property received which lead to disputes and litigation. The old law went so far as to say that, in the case of such trades, the property received was to be treated as cash "to the amount of its fair market value, if any" (with certain exceptions in the case of a corporate reorganization. 1918 Law, Section 202). The new law goes much further. It now states positively that no gain or loss on trades shall be recognized unless the property received on the trade "has a readily realizable market value." The phrase "readily realizable" adds a new and liberalizing element.

Even more important, however, are the exceptions made to the general rule. Even though the property received has such a "readily realizable market value," one need not account for the gain in certain cases. This is one:

When any such property held for investment, or for productive use in trade or business (not including stock-in-trade or other property held primarily for sale), is exchanged for property of a like kind or use.

How the Treasury will interpret this section is, of course, as yet unknown, but it would be a very narrow interpretation which would exclude exchanges of bonds for bonds or real estate for real estate. In other words, so long as one "barter" or "trades" his property for other similar property instead of selling it for cash, he need not account for his gains to the Treasury for tax purposes. Even if he does sell for cash, as has been noted above, he is subject to a tax of only 12½ per cent.

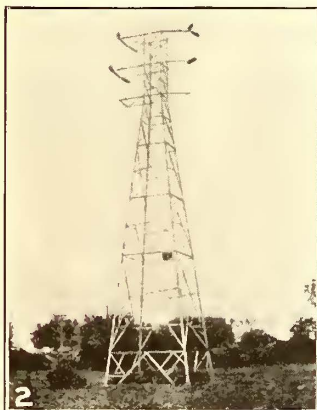
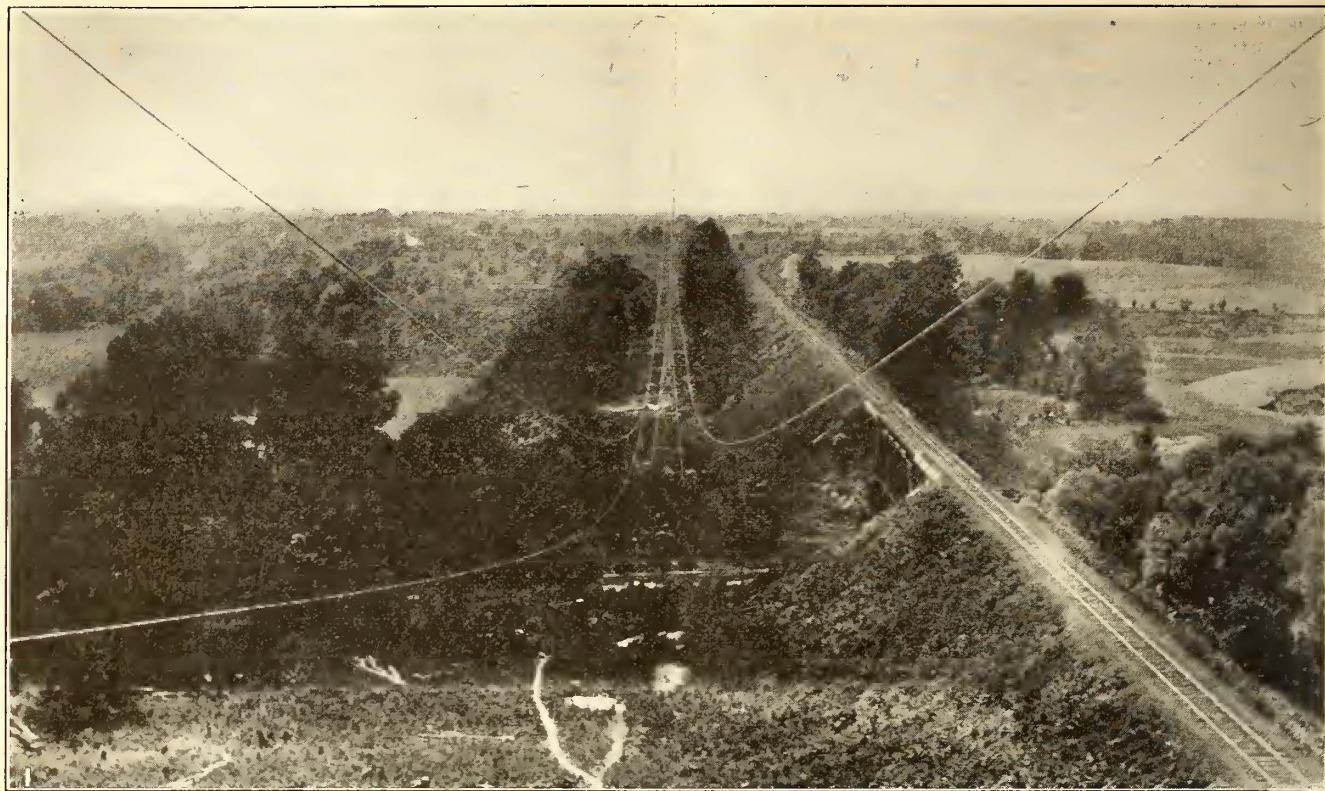
The provisions governing corporate reorganizations and sales of property to corporations are also greatly liberalized so as to make it unnecessary to report many gains for taxation.

NET LOSSES

With one minor exception included in the 1918 law, it has been the practice since the beginning of income taxation in this country to treat each year as a unit and to refuse to permit the fact that one has lost money this year to affect the amount of profit he must report the following year. Each accounting period has been carefully "insulated" from other accounting periods. This practice has worked much hardship and the new law breaks away from the old precedents by inserting a provision, effective for 1921 (Section 204, with a restriction on mines), which permits a net loss suffered in one year to be offset against any net income realized in the two next succeeding years. In other words, losses may be used to blot off subsequent gains, but losses are "outlawed" for this purpose after the expiration of two years.

The new law contains many other new provisions which it would be interesting to discuss, did not the limits of this article prevent it. Such changes include the new rule regarding gifts, which makes the recipient, if he sells a gift, account for the gain in the value of the gift before he received it (Section 202 (a) (2)); the section aimed to prevent "wash-sales" to establish losses (Section 214 (a) (5)); the provision covering cases where property is involuntarily converted into cash (Sections 234 (a) (14)) and the modifications in the various special taxes.

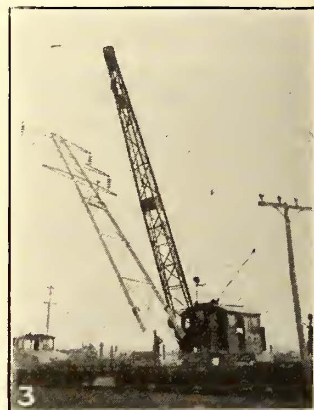
It has been possible to stress here only the most important departures in the new statute, so far as they relate to the business man and the investor.



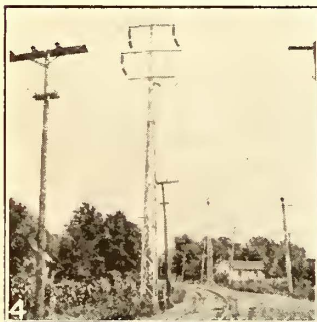
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Features of I. T. S. Transmission Line

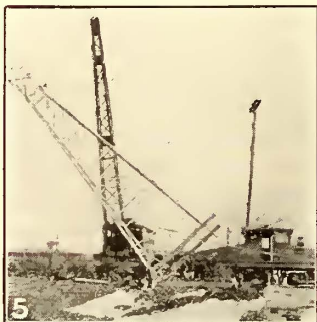
- No. 1. Span of 857 ft. on new I. T. S. high-tension line.
- No. 2. One of the large dead-end towers spaced 1 mile apart in new I. T. S. high-tension line.
- No. 3. Derrick car on interurban line raising one of the intervening A-frame towers.
- No. 4. Narrow-base four-leg tower used in towns, showing double insulator tie employed on curves and old line at left.
- No. 5. A few of the large towers were assembled, then erected as shown here.
- No. 6. Most of them were assembled vertically in position as shown here.
- No. 7. Setting the base section of one of the A-frames.
- No. 8. Bolting the assembled A-frame to the base while held in position by derrick.
- Nos. 9 and 10. Assembling and erecting a narrow-base four-leg tower.
- No. 11. Transmission line crossing right-of-way.



3



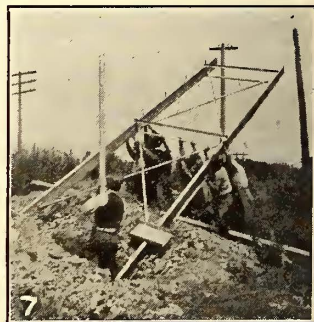
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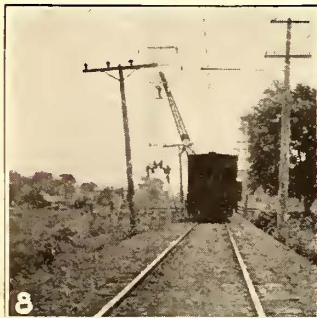
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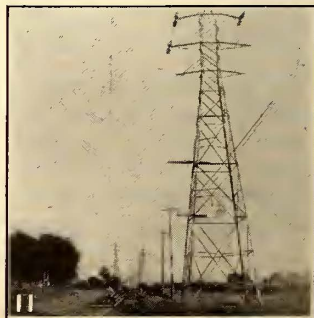
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I. T. S. Builds New Transmission Line

A Thirty-two Mile All-Steel Tower Line Has Been Erected to Connect the Riverton and Decatur Power Plants—Some of the Construction Details Are Given

THE Illinois Traction System was recently confronted with the necessity of increasing the available power plant capacity serving the street railway, interurban and power and lighting load of the Decatur, Ill., district. There were two alternatives. One was to increase the capacity of the Decatur power house; the other was to rebuild the transmission line connecting this plant with the railway substations en route and the Riverton power station 32 miles away, where spare capacity was available and where the conditions for increasing the capacity in the future are better than at the Decatur plant. For these reasons, and since the poles of the existing line had to be replaced anyway, the latter plan was determined upon, with the result that the first steel-tower high-tension line in central Illinois was erected.

Three kinds of steel towers were used in this transmission line—four-leg towers, 67 ft. 6 in. high located every mile across country, with seven steel A-frames 67 ft. 6 in. high between towers, and narrow-base four-leg steel towers 63 ft. high through the towns and at a few points along the interurban right-of-way where the tower location came at a siding and the available space was limited. The average span is 660 ft. and the longest span 857 ft., this occurring near Decatur where the line crosses a bottom and creek. Steel-reinforced aluminum cables made up of No. 8 steel core and six strands of No. 8 aluminum around it were used. The towers provide for two three-phase circuits, only one of which was strung for the time being, with the ground wire carried on the top of the towers. The line is insulated for 33,000 volts at present, although it is planned later to make it a 66,000-volt line by adding one disk insulator. For the most part the line was erected along the interurban right-of-way.

CONSTRUCTION METHODS

The steel A-frames are made up of 9-in., 7-in. and 5-in. channels weighing respectively 13.25, 9.75 and 8 lb. per foot. The completed A-frames weigh about 2,500 lb. They were erected by first setting the butt in the ground, assembling the remainder of the tower on the ground and raising it with the help of a derrick car and bolting it to the butt piece.

The narrow-base four-leg steel towers were erected in the same manner, except that the butts were set in concrete. The big dead-end, four-leg towers were for the most part erected vertically in position, for it was found that better time could be made by this method than to assemble them on the ground and raise them to position. Like the A-frame towers, these large four-leg towers were set in the earth without concrete footings.

The A-frame and narrow-base towers were raised with the insulators already installed, as it was found that this saved time and introduced no particular trouble. In connection with the raising of these towers, the interurban derrick car worked out very well, it being possible to erect twenty-four or twenty-five towers in a day and keep in the clear of traffic which averaged an hourly service each way. The narrow-base towers erected in this manner weighed about 3,500 lb. complete. The large dead-end towers weighed about 5,800 lb. Both the narrow and wide base four-leg towers

were made of 4-in. x 4-in. x $\frac{3}{8}$ -in. angles for verticals and with angle bracings. All of the towers were built from standard shapes fabricated by the American Bridge Company and bolted together in the field.

Some restriction of the work was experienced owing to the fact that while the new towers were erected at one side of the old line, the crossarms projected so that the new line was directly over the old transmission line. While it was possible to sectionalize the old line and kill a part of it during the daytime where the men were working, it was necessary to clear it every evening in time for the peak load.

Cost of Living in Various Cities

THE United States Department of Labor, through the Bureau of Labor Statistics, has completed the compilations showing changes in the retail cost of food in thirteen principal cities of the United States.

During the month from Oct. 15 to Nov. 15, 1921, there was a decrease in six of these cities and an increase in five. In Washington there was a decrease of 3 per cent, in Atlanta, Peoria and Springfield a decrease of 2 per cent, in Little Rock a decrease of 1 per cent and in Manchester a decrease of one-tenth of 1 per cent. In Rochester there was an increase of 1 per cent; in Philadelphia an increase of three-tenths of 1 per cent and in Baltimore, Louisville and New York an increase of two-tenths of 1 per cent. In Denver and Norfolk there was no change during the month.

For the year period Nov. 15, 1920, to Nov. 15, 1921, there was a decrease of 24 per cent in Louisville, Norfolk, Peoria and Springfield, 23 per cent in Atlanta, Baltimore, Denver and Little Rock, 21 per cent in Manchester, Philadelphia, Rochester and Washington and 19 per cent in New York.

As compared with the average cost in the year 1913, the retail cost of food on Nov. 15, 1921, showed an increase of 59 per cent in New York and Washington, 57 per cent in Manchester, 54 per cent in Baltimore, 52 per cent in Philadelphia, 46 per cent in Atlanta, 42 per cent in Little Rock, 41 per cent in Denver and 40 per cent in Louisville.

Prices were not obtained from Norfolk, Peoria, Rochester or Springfield in 1913, hence no comparison for the eight-year period can be given for these cities.

Postmaster-General Reports on Mail Pay

IN THE report which he submitted to Congress on Dec. 9 the Postmaster-General makes the following reference to the transportation of mails on electric railways during the last fiscal year:

On June 30, 1921, the mails were carried under authorization by the department over 7,910 miles of electric railways. The annual rate for service was \$526,792.04, the appropriations for the fiscal year were \$639,700, and the estimated expenditures \$593,280.70. The details are set forth in the appendix.

The department has been operating since Dec. 1, 1920, under the order of the Interstate Commerce Commission prescribing the space basis system of authorization and payment and the rates for the service required and rendered.

As in the case of the steam railroads, the commission provided in its order that the electric carriers should be compensated separately for the performance of side and terminal service where required by the department and prescribed the method of allowing such compensation. Under these directions appropriate steps have been taken to ascertain the additional amounts due, but the statements of the carriers have not been submitted in sufficient number for a reliable estimate of what additional payments shall be made. It is estimated, however, that the whole cost of side and terminal service will not exceed \$120,316 per annum.

Letters to the Editors

We Can Help Ourselves Through Helping Others

NEW YORK, Dec. 10, 1921.

To the Editors:

Frank H. Warren's paper in your Dec. 3 issue on "How Can Salesmanship Be Applied in the Street Railway Business?" is so full of meat that it will repay rereading several times by those who wish to digest the true possibilities of rides salesmanship. One could pick texts for a dozen discussions out of this paper, but two or three will do to show its thoughtfulness.

Thus Mr. Warren says: "The only special sale possible for a street railway is one that decreases the cost per ride but increases the cost per month or year. It must be something that will fool the buyer or stimulate him to increased use of service." Along these lines, he notes, are quantity sales of tickets, excursions, commutation tickets and unlimited-ride weekly passes. He observes that, unlike the merchant, the street railway cannot offer bargains to dispose of old stock because it has none. Nevertheless, it has a fair equivalent of "old stock" in its off-peak service which never sells to a preponderant fraction of the quantity offered, no matter how small that quantity may be. To move that line of goods is to achieve the merchant's feat of moving stock for which his public has no naturally keen yearning or need. So while it is easy heartily to agree with Mr. Warren's definition of a special sale in rides it is but right to point out that there really is an equivalent to the "old stock" condition since, after all, "old stock" or off-peak service are both largely a "surplusage."

Perhaps the most pertinent thing that Mr. Warren says is that: "People will no longer ride street cars for the sake of the ride. The desire created must therefore be in something else, in the gratifying of which our service is a necessary or valuable element." Here, if anywhere, is the core of the sales apple. He asks what could electric railway advertising add to the lure of the advertising got out by the dealer in merchandise or amusement himself? It can, and has, added a great deal to that "buy-from-me" advertising wherever the electric railway has been ready to co-operate by announcing better service or fare ameliorations. Ask the manager of any concert, lecture, circus or similar enterprise whether any amount of advertising by him would pull maximum business if the railway did not back him up by directly advertising its own rates and service. Ask the merchants in the Beaver Valley of southwestern Pennsylvania whether or no their Dollar Days were not made a greater success because the Beaver Valley Traction Company gave half fares during the shopping hours. Ask the Main Streeter of Terre Haute whether they do not feel that their business is brisker with a 5-cent fare and short-headway cars than if their clients had to pay more money and wait longer. Ask the picture house men of Youngstown whether it makes a difference to their theaters in attendance when patrons can come down on an unlimited-ride pass instead of paying 16½ cents or 18 cents fare to see a 10 or 20 cent show.

Mr. Warren is also right in stressing the narrow margin between financial success and failure in electric railroading as in other industries. We are doing things

90 per cent right, and in actual manufacture of car-miles many are doing things almost 100 per cent right. We are at fault chiefly in selling the ride from the standpoint of need rather than from the standpoint of convenience. No one except a crippled or otherwise enfeebled person actually needs to ride less than six-tenths of a mile. But in pre-war years it was the revenue that came from the people who did ride less than six-tenths of a mile that made the difference between profit and loss for many a British street railway as these short rides caused only a very small demand for extra car-mileage in proportion to their patronage.

As Mr. Warren hints in conclusion, it is much easier to get the formal acquiescence of many operating heads to the need for a sales policy than to get their true understanding of what salesmanship is. These men have hitherto not appreciated the fact that to manufacture an article calls for one kind of skill and to sell it calls for another kind of skill. There can be no great improvement until this difference is fully comprehended.

OBSERVER.

What We Don't Know About Steam

RECENTLY an informal conference was held in Boston to consider our present knowledge of steam and to indicate lines of attack for research organizations. The conference committee of fourteen men was composed of the foremost experts and engineers in America, and the result of their conference is contained in the *Journal* of the American Society of Mechanical Engineers, August, 1921.

In summing up the present situation as regards the accuracy and completeness of present steam tables it appears that vapor pressures and possibly liquid volumes are well enough known for the present; superheated specific heats are fairly well known except at pressures above 270 lb. gage; specific volumes are known directly only below 150 lb. gage and at low superheat; latent and total heats of the vapor are known directly, but not entirely satisfactorily, up to about 190 lb. gage; above that pressure they are not known directly at all; Joule-Thompson coefficients are scarcely known at all above 50 lb. gage, and, finally, our knowledge of the heat of the liquid and of the fundamental heat unit on which the whole table is based is most unsatisfactory.

This conference is important in that it laid out some lines of research work which should be of benefit to power plant designers. Such research is necessary, as designers are contemplating the use of extremely high pressures and superheat in order to take advantage of the economies which are known to accompany such practice.

Motor Truck vs. Railroads

THE motor truck has become an active competitor of rail carriers for short haul freight and it is for these carriers to decide whether they shall continue to compete for this class of freight while the motor truck gets the use of state highways free of cost. Edward G. Riggs in an article in a recent number of the *Forum* has ably summarized the existing conditions, quoted eminent authorities on the subject and tabulated relevant statistics. Mr. Riggs shows the unjust ratios of taxes paid by the two agencies and, although the motor truck is here to stay, points out the trend toward an equalization of transportation taxation.

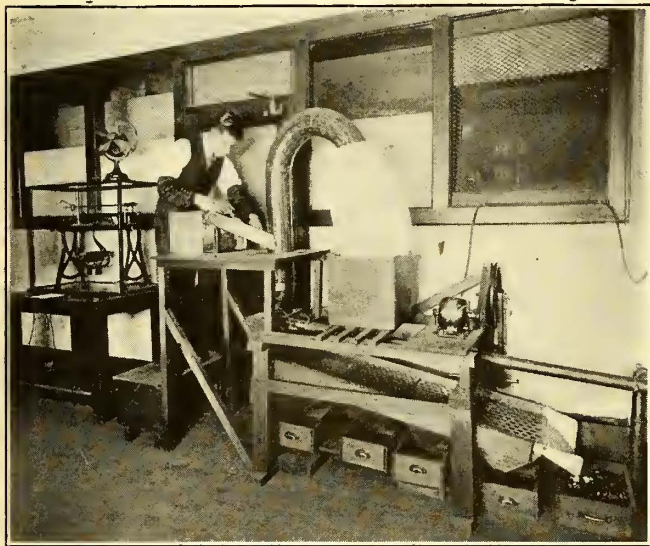
Equipment and Its Maintenance

*Short Descriptions and Details of New Apparatus of Interest
to the Industry. Mechanical and Electrical
Practices of All Departments*

Railway Builds Coin and Ticket Sorter

Mixture of Coins and Tickets Fed Into Device and Air Pressure Blows Tickets Into One Receptacle While Coins Roll Down an Incline and Are Sorted Into Their Respective Denominations

WHEN the British Columbia Electric Railway began using fare boxes quite a problem was presented for the ticket and accounting departments to separate the coins and tickets which were mixed indiscriminately. The machine shown in an accompanying



COIN AND TICKET SORTER USED BY THE BRITISH COLUMBIA ELECTRIC RAILWAY

illustration was the result, and this has effectively solved the difficulty. The machine consists principally of a stovepipe arrangement into which the mixture of tickets and coins are fed. Air from a blower is fed into this pipe at the bottom, while the attendant feeds the mixture of coins and tickets in at the center. The tickets are blown up and over the swan-neck portion of the pipe into a box which is protected by a cheesecloth bag to keep the tickets from blowing about the room. The structure of cheesecloth allows the air to pass through readily, so there is no difficulty from excessive air pressure.

At the same time as the tickets are blown upward, the coins drop down and emerge through a small opening at the bottom of the pipe, which is offset to direct the coins into the sorting tray. This sorting tray is built at an angle and is made to vibrate by means of hangers connected to a small motor. The sorting tray is divided with perforations for 10-cent pieces, pennies, nickels and quarters, so that each size can drop through into a box underneath. This type of sorter effectively takes care of the coins and sorts them into their respective denominations.

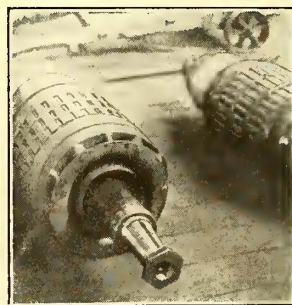
The receiving and sorting pipe is 6 in. in diameter

and $\frac{1}{8}$ in. thick, and is made of galvanized sheet iron. The opening for receiving the mixture of tickets and coins is about 5 in. across and 2 in. high. This is left open and no trouble is experienced from tickets blowing back. The end of the pipe from which the tickets emerge is flanged to form a bell mouth and a base for the cheesecloth covering. The air enters at the bottom of this pipe through a 2-in. wrought-iron connection from the blower. The end of this air pipe has a small lip to prevent the coins from dropping into the air pipe. This air pipe is also located a little above the opening for the discharge of the coins and is shaped so that the direction of the air pressure is upward. The blower for supplying the air is driven by a 3-hp. motor. This was used because the motor was available without purchasing a new one. A smaller size could be conveniently used, however. The sorting tray is made of $\frac{1}{8}$ -in. iron plate and is 1 ft. 6 $\frac{1}{2}$ in. wide by 4 ft. 7 in. long. The shaking arrangement consists of small eccentrics on a shaft underneath the tray, connected so that as this is rotated by operating the motor located on a shelf over the tray the necessary vibrating is produced. Should any paper money be put into the mixture it, of course would be blown in among the tickets, so it is not necessary to separate this before the mixture is fed into the pipe.

The time taken to sort coins for the British Columbia Electric Railway is about two and one-quarter hours per day.

Building Up a Damaged Pinion Fit

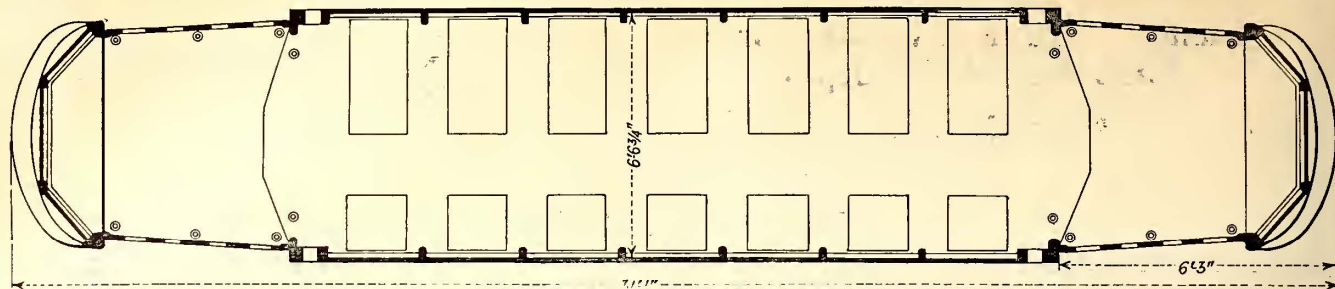
THE accompanying illustration shows a G.E.-201 motor armature shaft which was practically ruined as a result of a loose pinion on one of the equipments of the Boston & Worcester Street Railway. Before welding



PINION FIT ON ARMATURE SHAFT REPAIRED BY WELDING

equipment had become a necessary piece of apparatus for electric railway shops this shaft would have been scrapped as the pinion end was badly scored. A $\frac{1}{8}$ -in. cut was taken off the damaged portion in order to provide for the adding of new stock and by the aid of an Indianapolis welding outfit the scarred and worn shaft was built up. A new key-way was then cut with a milling machine and the shaft turned

to proper size. The cost of the machining and welding was approximately \$5, against the price of a new shaft which would have been in the neighborhood of \$50. The equipment was returned to service immediately, which would have been impossible if a new shaft had been installed.



FLOOR PLAN FOR HELSINGFORS SINGLE-TRUCK CAR

American Cars for Finland

Single-Truck Cars for the Helsingfors (Finland) Tramways Company Have Exceptionally Long Platforms so that Twelve Standing Passengers Can Be Accommodated on Each

THE J. G. Brill Company has shipped twenty closed motor cars, mounted on Brill 21-E trucks, to the Helsingfors Tramways Company, Helsingfors, Finland. These cars are particularly noteworthy on account of the 6-ft. 3-in. platform at each end, inclosed with four-part folding doors in two sections, one section folding out against the body corner posts and the other against the vestibule posts. Doors and folding steps are manually operated either from a lever located against the vestibule in front of the motorman or on a stand in the open bulkhead where the conductor is located. Twelve standing passengers can be accommodated on each platform and, as twenty-one passengers can be seated in the car, this gives a total carrying capacity of forty-five passengers.

Passengers are not permitted to stand in the car-body aisle, which is left clear for the passengers moving to and from their seats. Each platform is also equipped with six stanchions, three on each side of the door openings, which serve as grab handles for the standing passengers.

Wood is the principal material used in the underframe construction, yellow pine being used for the side and center sills and oak for the end sills and crossings. The side-sill members are $4\frac{3}{4} \times 5\frac{7}{8}$ in., and the center stringers $4\frac{1}{2} \times 5$ in., reinforced with a steel angle $6 \times 3\frac{1}{2}$ in. The oak end sills are $3\frac{1}{2} \times 6\frac{3}{8}$ in., and the crossings $3\frac{1}{4} \times 5\frac{7}{8}$ in. All members of the underframe are substantially joined together and secured with tie rods. The upper structure is constructed with ash corner posts, $3\frac{3}{8}$ in. thick, and ash side posts, $2\frac{1}{4}$ in. thick, with concave and convex panels of poplar. The plain arch type of roof, which extends the full length of the car, is supported on wooden rafters $1\frac{1}{2}$ in. wide over each side post in combination with concealed steel rafters $1\frac{1}{2} \times \frac{3}{8}$ in., and $\frac{7}{8}$ in. wide between posts.

Seven body windows on each side are inclosed with double sash. All upper sash are framed in one-piece and are stationary, while the lower sash can be raised. The end of each platform is inclosed with a stationary vestibule having three windows, the single sash of which all drop into pockets behind the dasher. For the convenience of the motorman, the center of the three vestibule sash may be held at various heights, it being equipped with a suitable rack for this purpose. Below the vestibule windows, the dasher on the outside is of $\frac{1}{8}$ -in. steel and there is a $\frac{3}{8}$ -in. steel lining on the inside.

The absence of bulkheads in the body ends not only eliminate the usual sliding doors, but permit quicker

access to the car body and at the same time there is an appreciable saving in weight, which is a most important feature. For the assistance of passengers and also as a support, a pipe stanchion on each side of the body end extends from over the end sills up to the leaders. The interiors are finished in cherry, including all doors and window sash as well as the other interior woodwork. Agasote is used for the ceilings in the body proper, but the platform ceilings are of carline finish. Each side wall between the belt rail and the floor is also covered with Agasote.

The seating arrangement consists of seven transverse cherry slat reversible-back seats with 36-in. cushions for two passengers on one side of the aisle, and on the other seven single seats, with 18-in. cushions, of the same general type, giving a total seating capacity of twenty-one passengers. All seats are constructed with the Brill "Winner" mechanism and have one-piece pressed steel pedestal and aisle plates. The slats in both the cushions and backs are so arranged that alternately there are dark and light slats, giving the seat somewhat of a unique appearance.

The trucks, No. 21-E, on which these cars are mounted, are constructed for 3-ft. $3\frac{3}{8}$ -in. track gage, and have 7-ft. wheelbase and $31\frac{1}{2}$ -in. diameter wheels. A substantial wooden wheel guard extends completely around the truck.

Welding a Cracked Bolster

THE bolster shown in the accompanying illustration was cracked in a collision of cars on the Seattle & Rainier Valley Railway. At first it was thought that the car would have to be retired from service until



REPAIRING A CRACKED BOLSTER

another bolster could be obtained from the East. However, the Prest-O-Lite outfit soon repaired the crack and the cost of the outfit was saved by this one repair job.

The repaired bolster has now been in service for over a year with no signs of failure.

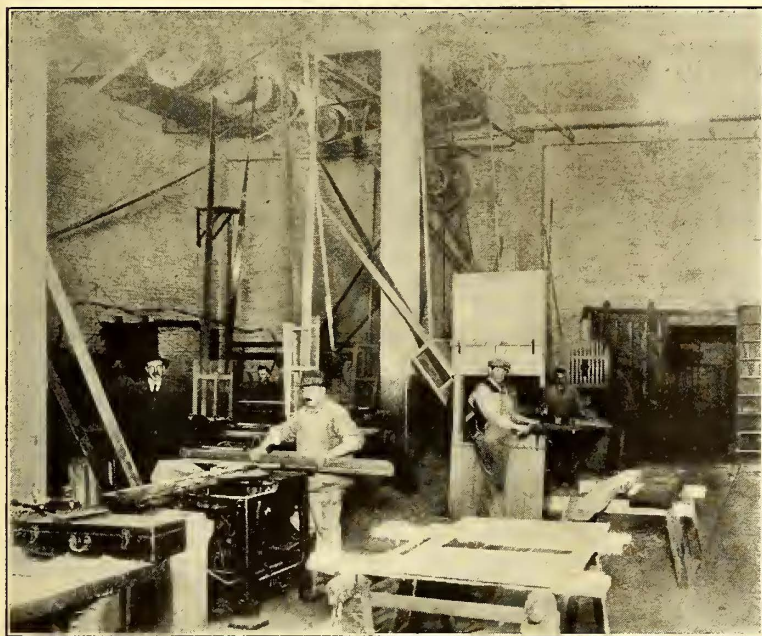
Efficiently Arranged Wood-Working Shop Increases Output

Second Avenue Railroad, New York City, Has Enlarged Its Wood-Working Shop, Installed Additional Up-to-Date Machinery and Provided an Efficient Lighting System

WHEN the Second Avenue Railroad of New York City began its program of reconstruction and remodeling of rolling stock, as described in the *ELECTRIC RAILWAY JOURNAL* for Feb. 19, 1921, it was badly handicapped by the lack of wood-working facilities. A few saws of various types and wood-working benches arranged along the wall next to the windows constituted the entire wood-working equipment. Realizing that the preparation of material for the interior finish, vestibules, sash, etc., of the remodeled cars was in reality a far more extensive branch of work than the car repairing

above the floor and their horizontal spacing is shown on the accompanying plan. The workmen are highly pleased with the lighting effect and a cheerful, contented force means efficient work with less waste from damaged material. In discussing the lighting of his shop, Mr. Chalmers said he considered the lighting system the most important part of the equipment. Insufficient or poorly arranged lighting produces eye strain, which leads to bodily fatigue and so lowers personal efficiency, while a brilliantly lighted shop adds greatly to the morale of the men and improves the quality of the work produced.

The old system of providing machines and operators with drop lamps is not satisfactory, as glare cannot be avoided. A shop with any considerable number of drop lights is unsightly and the cost of wiring is high. When an operator changes his position he tries to change the location of his drop light by tying the wire to some sta-



AT LEFT, A CORNER OF THE WOOD-WORKING SHOP. AT RIGHT, FOREMAN'S OFFICE CONSTRUCTED OF CAR DOORS AND BLINDS

usually undertaken, C. E. Chalmers, receiver for the road, set about increasing the facilities and mill equipment necessary for this work. An accompanying plan shows the shop as rearranged, and the list of wood-working machinery now in use includes machines found most necessary for the economical and rapid turning out of this work.

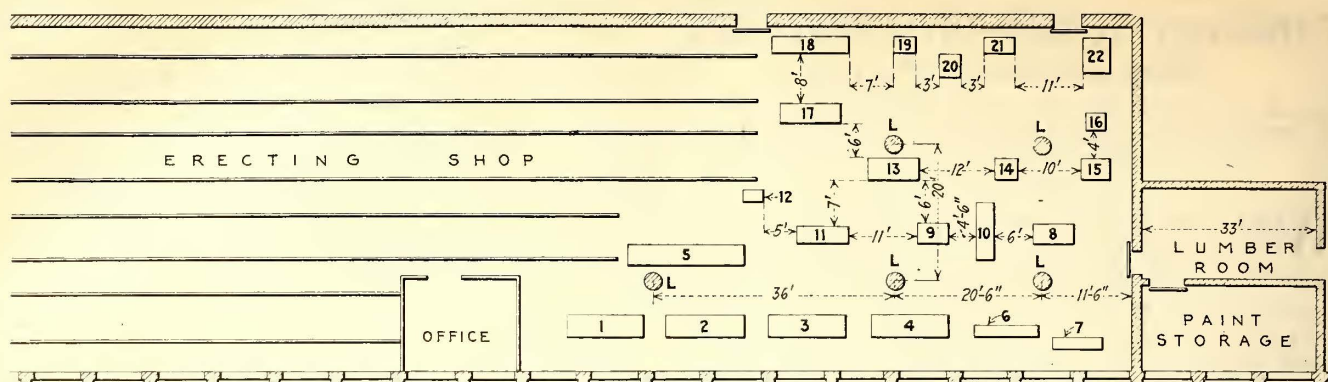
The wood mill now occupies a space of approximately 3,700 sq.ft. The various machines have been grouped so that the rough material will progress naturally from the east end, where it comes in from the lumber storage, to the west end, where tracks provide facilities for the cars that are to be worked upon. The wood-working benches are located along the south wall, where the light from the row of windows on this side gives ample illumination for the various hand operations.

The problem of artificial illumination came up with the regrouping of the machines in the center and north side of the room, where there were no windows, and a lighting system has been installed which gives abundant light without shadows for all the various machines. Five 400-watt Mazda C lamps with Ivanhoe reflectors are used. These are mounted at a height of about 14 ft.

tionary object, which is objectionable from the standpoint of safety. In addition to the lighting system in the wood-working shop fifty-five units with 200-watt lamps and Ivanhoe reflectors and five units with 400-watt lamps have been installed in various other departments and in the inspection and overhauling shop. By using a general lighting system with large units located out of reach of the workmen disappearance and breakage of lamps, which amounts to a considerable item, is done away with. Mr. Chalmers has estimated that the saving in this respect from the newly arranged system will pay for the entire cost of the installation in less than a year's time.

CARS PROGRESS FROM WOOD-WORKING SHOP TO PAINT SHOP

The wood-working department is served by three tracks, so that work can be carried on and repairs made on from eight to ten cars at one time. These same three tracks run through the paint shop, which is immediately behind the wood-working department. The paint shop is separated from the wood shop by a fire wall with fire doors. As soon as the work on the car bodies is com-



No. 1, 2, 3, 4, 5 Work benches, No. 6 Panel bender, No. 7 Lathe, No. 8 and 9 Band saws, No. 10 Jointer, No. 11 Mortiser and relisher, No. 12 Grindstone, No. 13 Planer, No. 14 2 Spindle variety, No. 15 Jig saw, No. 16 Postborer, No. 17 Circular saw, No. 18 Swing saw, No. 19 Emery wheel, No. 20 Band saw sharpener, No. 21 Automatic swbd., No. 22 60 Hp. motor, L=400 Watt lamps

PLAN OF WOOD-WORKING SHOP FOR SECOND AVENUE RAILROAD, NEW YORK CITY

pleted the cars can be moved back on the same track into the paint shop.

The paint storage room is a new addition which has just been constructed. This is shown at the right in the accompanying plan. This paint storage room is entirely of fireproof construction and the walls are made of Camp duct tile. A large quantity of these was available without purchasing new material and the inspectors from the Fire Underwriters considered this construction equal to that of any tile construction that could be used.

The foreman's office for the wood-working department is constructed of old car doors and shutters and provides a very attractive appearing office. The utilization of old car doors for partitioning off departments has been used in several other railway shops. The International Railway of Buffalo has used this type of construction for partitioning off its electrical department from the machine shop. This was described in the ELECTRIC RAILWAY JOURNAL for June 18, 1921, page 1115.

Pasting Skip-Stop Signs on Poles

As an Emergency Method Which Required Quick Completion, Properly Marked Posters Were Applied to Poles to Designate Stops

BY G. H. MCKELWAY

Engineer of Distribution Brooklyn (N. Y.)
Rapid Transit Company

IN THE ELECTRIC RAILWAY JOURNAL of Oct. 15 there was a short article on the painting of skip-stop signs on poles in Chicago. This stated that 16,000 poles would have to be painted and it was estimated that it would take approximately five weeks to complete the work. This is at the rate of over 500 poles a day if only six days are worked each week, and it therefore means that a large gang of men must be put on the work and permitted to do nothing except paint the signs. It was also stated that the work was being done as fast as possible so as to have it finished before the commencement of the "Pageant of Progress."

A somewhat similar emergency occurred in Brooklyn during the war, when, in order to save fuel, the railway company was ordered by the Fuel Administration to install a large number of skip stops and the order was dated so as to go into effect in about a week from the time that it was issued.

It was impossible for the line department to paint more than a small proportion of the number of poles that would have to be marked, so the contract for marking the poles was given to a large bill-posting company.

Posters properly marked with large blue letters on a white background and of a size large enough to reach around the pole were printed and pasted on the poles at the correct height by the employees of the bill-posting company in a few days.

These signs did not make such a good appearance as painted ones would have done and would not have been anywhere near so permanent. However, it was thought that the skip stops were only a temporary measure and would not be permitted to remain after the emergency was past, and if they should be required longer the poles could be painted by the line department. The bill posters offered to stick the posters on with glue instead of paste and then to varnish them to protect them from the weather, two measures that would have greatly prolonged the useful life of the posters, but these offers were not accepted because, as stated previously, it was thought that the change was only a temporary one and, if it should prove permanent, it would be better to paint the signs on the poles.

The order was in effect but a short time and then the posters were easily scraped off, much more easily than it would have been to paint out the signs if they had been painted on the poles. However, a few were missed, and although they were removed as soon as they were reported the writer found two in place almost a year after they had been put on which were still in quite good condition.

Perhaps some other railroad company will be able to profit by this experience if it has to install quickly a large number of such signs and their permanence and appearance are not important items.

New Non-Freezing Dynamite Demonstrated

A DITCH blasting test in snow and ice was made during the last few days of November, near Wausaukee, Wis. The ditch was blasted by the propagated method using a new non-freezing dynamite manufactured by the Du Pont Company. The dynamite was loaded through 8 in. of snow and about 1/2 in. of ice in wet soil, the temperature of which was 35 deg. F. at the point of the load. Moreover, the dynamite used had been exposed in storage to freezing temperatures for several weeks. The results were entirely satisfactory. Straight dynamite has been used for years in nearly every kind of open work, but a disadvantage has been its liability to freeze at temperatures below 50 deg. F. Any dynamite loses some part, if not all, of its efficiency when chilled or frozen and many attempts have been made to make the explosive low freezing.

A Rotary Snow and Ice Digger

A Very Efficient Machine for Loosening and Removing Ice and Snow from Electric Railway Tracks Is in Use on the Eastern Massachusetts Street Railway System, Lynn Division

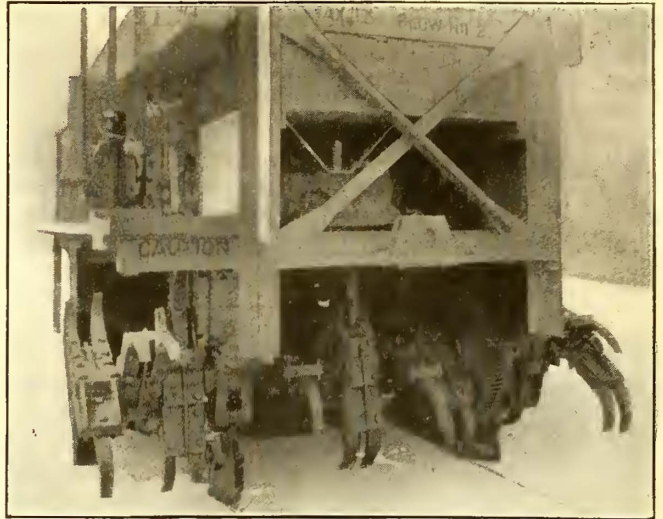
AS AN addition to their snow-fighting equipment, the Eastern Massachusetts Street Railway has added a snow digging and loading machine of the type shown in the accompanying illustrations. This machine is the invention of A. T. Sampson of Lynn, Mass., and the railway officials expect that it will be of great assistance in keeping down high track centers and preventing an accumulation of ice during the winter months.

The operation of the machine can be divided into two essential parts. The first consists of the mechanism for loosening the snow. This consists of a revolving shaft mounted at the front end on which are placed the ice cutters and diggers. The shaft is made of 2½ in. tool steel and has seven picks mounted on it. This shaft revolves at a speed of about 1,000 r.p.m. The picks dig into the ice and sleet and loosen it for removal. In addition to the picks, there are two vibrating diggers or rooters, one located over each rail. These diggers have a series of wedged shaped teeth on the bottom and are operated by means of cams on the revolving shaft so that they move back and forth in a horizontal plane so as to loosen all ice over and adjacent to the rails.

The diggers are about 16 in. long and swing on a pivot at their top. They have a rooting movement of about 7½ in. and break the ice down to about 1¾ in. above the rail. Behind these diggers are smaller picks mounted on a rocker shaft. These have an upward and downward movement of 5½ in. They break the remaining film of ice down to the face and into the groove of the rail and clean this so that the wheels are always assured of a clean rail, no matter what the ice conditions may be.

SCOOPS REMOVE LOOSENED ICE

Located immediately behind the picks and diggers is a scoop 9 ft. 6 in. wide, which has the form of an inwardly flaring shovel. The central portion of this scoop has a heavy duty conveyor which lifts the snow and ice, draws it into the machine and expels it from chutes located one on either side of the machine. This conveyor is capable of handling 1,600 cu.ft. of ice and

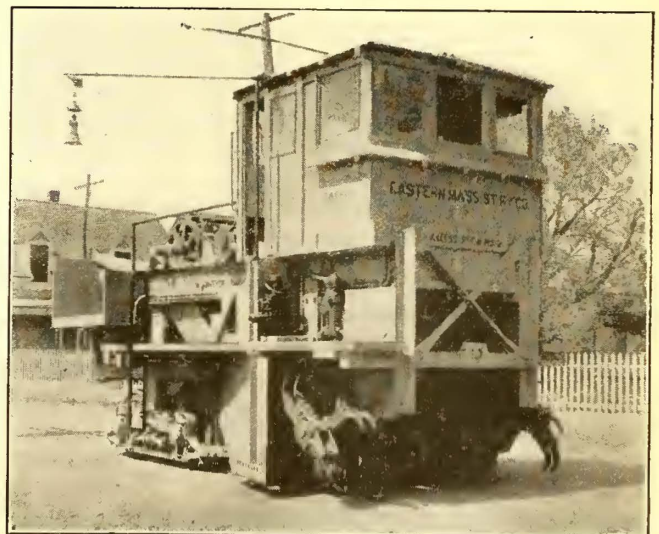
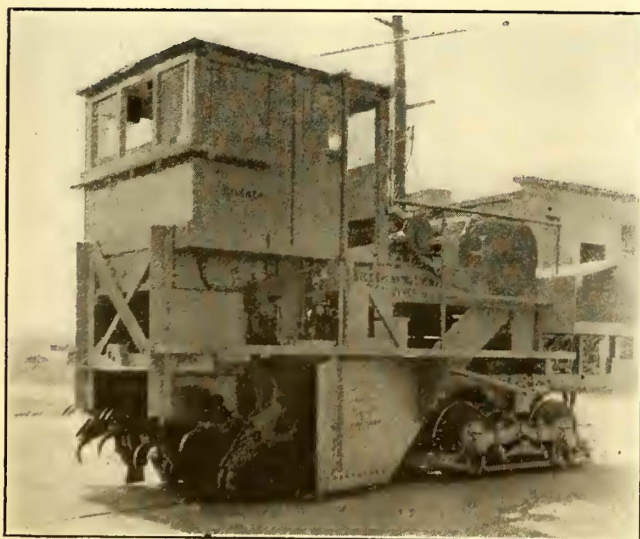


FRONT END OF THE ICE DIGGER

snow per minute and where it is not desirable to deliver the snow and ice to trucks for hauling away, the conveyors can carry the material to a sufficient height so that it will be thrown entirely clear of the track and effectively clear the track for operation.

The ice-digging machine has a steel framework which weighs about 13,000 lb. There are about 7,000 lb. of steel castings and about 1,200 lb. of iron castings in its construction. The machine complete weighs about 48,000 lb. and is driven by two 90-hp. motors. In addition to the motors used for propelling the machine, two additional motors operate the diggers and conveyor. Adjustment for the depth of cutting is provided by lifting the front end of the machine in its relative position to the cab. The digging mechanism has a three-point suspension, which gives it flexibility.

A sample machine having the essentials of this one but built of a flat car was constructed and tested by the Eastern Massachusetts Street Railway last winter. This worked on the Lynn Woods route, which at that time was completely blocked by snow and ice. This ice cutter went through 12 in. of ice and twelve men were kept busy removing the ice broken by the machine. This test under such severe conditions was very impressive as indicating the amount of work that could be accomplished.

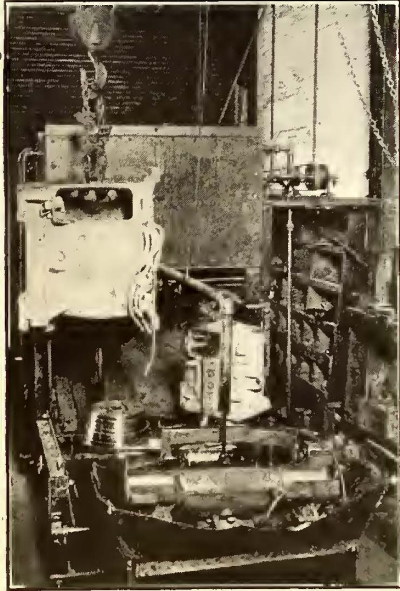


SIDE AND END VIEWS OF THE ICE DIGGING MACHINE

Flow Method of Impregnating Fields

Shop Constructed Apparatus Used by the International Railway of Buffalo Makes Possible the Impregnating of Field Coils Without Removing Them from the Motor Frames

THE dipping and baking of armatures and fields has done more to improve the operation of railway motors in the last five years than any other improvement which has been applied. The reason that some companies do not get better results is that they fail to realize that in order properly to bake fields and arma-



FLOW METHOD FOR TREATING MOTOR SHELLS AND CORES

tures it is absolutely essential that there be sufficient ventilation in the oven, for without it, the varnish will not dry properly and a worse condition is created than if the fields had not been dipped. The preheating of an armature or field is as important as the dipping and baking. It dries up any possible moisture that may be lodged in the insulation or on the copper, permits the varnish to penetrate much more readily and thoroughly, thus insuring better insulation and prevent-

ing vibration, which undoubtedly causes more armature and field failures than any other one cause.

The removal of the field coils from a shell in order to dip and bake them is a rather expensive method, and quite frequently in removing the field from the shell the insulation is cracked, necessitating reinsulating, which is very expensive. This expense the International Railway of Buffalo, operated by the Mitten Management, Incorporated, has eliminated by the use of the outfit as shown in the accompanying illustration. The armature is removed and the inside of the shell and field coils are blown out with compressed air and then wiped off with a cloth moistened with gasoline. The fields are then tested and if they have proper predetermined resistance, the shell is placed on an iron truck and preheated to 180 deg. F. The equipment necessary for soaking the fields when mounted in the shell is very simple. The upper tank shown in the illustration is capable of holding five barrels of varnish and has a gravity feed to the terraced casting upon which the various types of motors are placed by the use of an electric crane. Upon opening a globe valve in a 2-in. pipe line the varnish flows from the upper tank through the terraced casting into the inside of the motor shell, which is filled up to the height of the commutator inspection opening. It is then allowed to soak for at least one hour. A valve underneath the casting upon which the shell rests is then opened and the varnish flows into the large tank which sets in the ground. The varnish is pumped from this lower tank back into the upper tank by the use of a Gould Company's 25-cu.ft. pump. In case of a split motor frame, the halves are placed on the iron rack in front of the terraced blocks and the

middle 2-in. pipe shown in the illustration is used for filling these halves. It is not necessary to bolt either the shells or the halves when they are being filled, which, as all equipment men will appreciate, means a considerable saving of time. The large flanged tray is used under the split shell rack so that none of the varnish will be lost when the motor frame is emptied by being raised on one side by the crane.

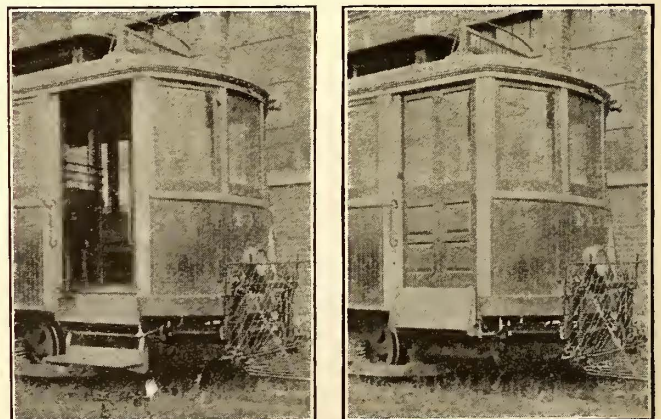
Carrying Capacity of Ball and Roller Bearings

THE Bureau of Standards has just issued Technologic Paper 201, giving in considerable detail the results of experiments to determine the maximum load and the static friction under load of ball and flexible roller bearings. Tests were made of balls of 1 in., 1½ in., and 1½ in. in diameter in grooved races and on rollers 1½ in. in diameter and 5½ in. long in flat and cylindrical races. The total deformation and area of contact of bearings and races were measured and compared with Hertz's theory.

The conclusions reached were that the result obtained agreed roughly with Hertz's theory and where differences were found to exist they can be ascribed to inhomogeneity of the material. The ratio of friction to load is practically constant and equal to 0.00055 for all three sizes of balls up to a critical load which varies with the diameter of the ball. These critical loads were 1,300 lb. for 1 in., 1,700 lb. for 1½ in. and 2,200 lb. for 1½ in. balls. A similar critical load of 25,000 lb. was found for the roller bearing with a ratio of friction to load equal to 0.00075. This critical load, at which the friction began to increase more rapidly, was in all cases lower than the safe load as determined by permanent deformation and as calculated from Stribeck's law. The paper describes the apparatus used and methods, results and conclusions for static friction and compression tests.

Folding Steps for Double-Step Cars

THE Portland Railway, Light & Power Company is using a folding step in connection with the remodeling of its double-step cars. In its raised position the lower step folds up and covers the top step as well as the opening below the doors. Passengers are thus pre-



FOLDING STEP IN ITS LOWERED AND RAISED POSITION

vented from hanging on after the doors are closed. The top of the step hanger runs back under the car and a piece of old rail is attached to it to balance the step. With this installation it requires from 6 to 8 lb. to operate the doors and steps.

Preventing Overhead Corrosion

Steel Messenger Wire Was Replaced with Copper Clad Using Same Three-Point Suspension with Galvanized Iron Hangers

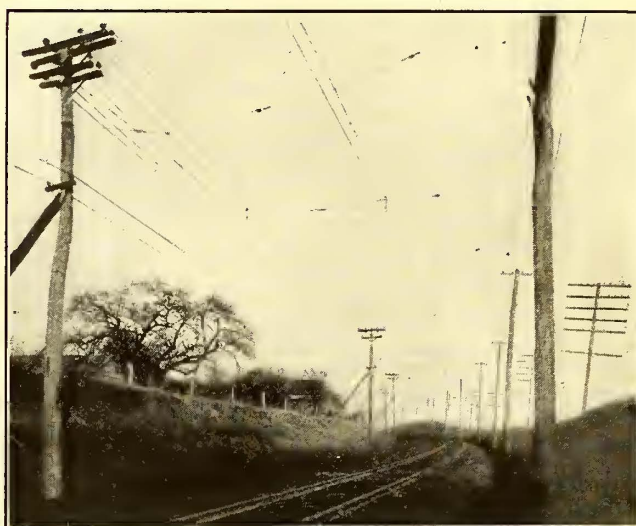
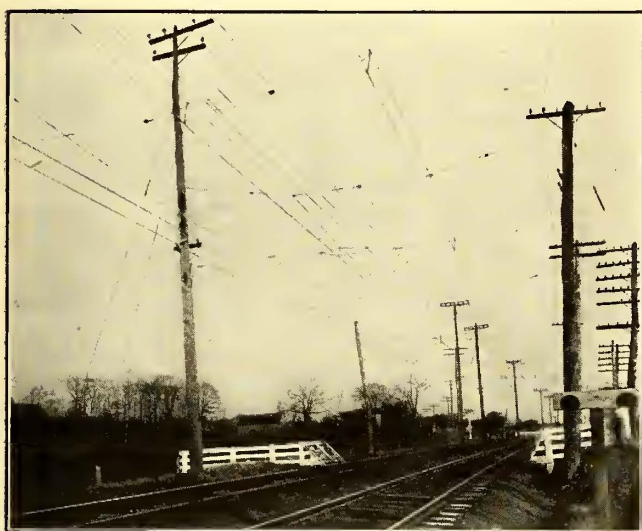
By L. E. SCOTT

Assistant Engineer Connecticut Company

DURING the year 1907 8 miles of New York, New Haven & Hartford double-track steam road between East Hartford and Vernon, Conn., was electrified for 600-volt direct-current trolley operation. This was done primarily for the passenger service. A three-point catenary suspension with 150-ft. section on the straight track was used. The messenger was Siemens-Martin $\frac{7}{8}$ -in. stranded galvanized steel cable, the hangers were the G. E. Japan pipe type and the trolley was No. 0000 grooved copper and the ears were of the malleable screw type. This section is on a grade of 13 ft. per

of \$6,100 was made for construction exactly as above except for the messenger of galvanized steel. After further discussion it was finally decided to replace the steel messenger with a copper clad messenger and to use the same three-point suspension with galvanized iron hangers. The spans were to be of $\frac{3}{8}$ -in. seven-strand galvanized iron and the pull-offs $\frac{1}{4}$ -in. seven-strand galvanized iron.

The trolley and messenger were anchored every thousand feet by using Ohio Brass strain plates with two extra plates on top, between which the messenger was clamped by replacing the standard plates with longer plates. The anchor wires were $\frac{5}{8}$ -in. seven-strand galvanized iron. The lengths of the messengers used varied with the lengths of the sections, which were 150 ft. on straight track and as short as 80 ft. on the curves. Six lengths of flexible hangers were used, namely, 5 in., 6 in., 13 $\frac{3}{4}$ in., 15 in., 16 $\frac{1}{2}$ in. and 18 $\frac{1}{4}$ in.



CATENARY CONSTRUCTION USED TO OVERCOME CORRODING FROM STEAM LOCOMOTIVE GASES

mile, so that trains going east were continually under power. Between the hourly electric passenger service it has been and still is the custom to operate double-headed steam locomotive freight trains.

In 1913, after six years service, the steel messenger on the up-grade track began to break. An inspection showed it to be very much corroded and eaten by the hot gases of the steam engines. The messenger was then renewed with one similar to the first. In 1919 this second messenger began to break, and inspection at this time showed this second messenger to be very much corroded and very weak. The hangers, ears and the sections of the spans and pull-offs which were over the up-grade track were also so much pitted that it was thought best to renew all the spans and to renew the pull-offs, hangers and ears over this track.

The messenger, hangers and ears over the down-grade track were found still in good condition. Both trolley wires were the original ones and were in apparently in no worse condition because of the hot gases from the locomotives. From this it appeared that the gases from the locomotives had little effect on copper and so in 1920 estimates were made toward renewing the entire overhead with copper or copper clad steel, the wornout messenger, the spans and pull-offs with copper clad steel and the three-point suspension with eleven-point suspension and the hangers with copper clad ones. The estimate for this work was \$15,000. Another estimate

These hangers were made of $\frac{5}{8}$ -in. galvanized iron rod with a 2-in. slot in the upper bend for flexibility. The iron collar similar to the spool was designed to thread on the hanger and seat tightly on the ear and served as the means of holding the pull-off on curves. The sample prices of hangers and ears on the 150-ft. sections were:

One 5-in. hanger.....	\$0.56
Three 13 $\frac{3}{4}$ -in. hangers.....	1.34
Three 7-screw clamp ears.....	1.31
Iron pull-off collar.....	0.17

The above work was done during a period of about four months and the accompanying illustrations show the straightaway and curve. The right-hand messenger is the one renewed.

Another Method of Repairing Door Guides

IN THE Nov. 26 issue of the ELECTRIC RAILWAY JOURNAL, page 954, a method was given for fastening angle iron door guides on cars where the screw holes have become worn in the wood. A similar method has been used by the Quincy Railway of Quincy, Ill., except that instead of using angle irons for the door guides these are replaced by a channel iron welded to another plate. In places where the original angle iron guides cannot be used further the Quincy Railway finds that the use of the channel is cheaper than two angles and works just as satisfactorily.

Commission's Tentative Plan Criticised*

Holding Company Liable to Be Controlled by Politics—
Substitute Proposed

BY T. S. WILLIAMS

President Brooklyn Rapid Transit Company

TO A LAYMAN it would not seem as if the commission's plan had followed the direct and simple path outlined in the law. Instead it proposes an indirect and in some respects an objectionable course. It creates an intermediate agency, not provided for in the law—the so-called new Company A—which purchases the railroads, pays for them with its mortgage bonds, and then conveys the properties to the city subject to these purchase money bonds.

The city thereupon leases the railroads back to three new railroad companies respectively, called, for convenience, B, C and D, whose stocks are to be owned by Company A, and A's stock in turn is to be held in some kind of trust by the Transit Commission.

From the city's point of view all its control over the properties to which it acquires legal title will be delegated to the holding company, in whose board of directors it will have three out of six members and a partial say as to the seventh member. Whether such a complete delegation of power is desirable from a municipal point of view may be questioned.

From the existing investors' point of view the objections to this intermediate company arrangement are numerous, and, I fear, insuperable, even assuming that the investors would be reconciled to a plan of municipal ownership.

1. The holding company will necessarily be a political company. Three of its directors will be appointed by the Mayor, three by the representatives of the bondholders in the three operating companies, and the remaining director by these six. In case they do not agree the Transit Commission is to select him. In practical effect, therefore, this would probably mean an official—that is a political—control; for all that would be necessary to make it so would be a refusal of three of the directors to agree with their associates as to the seventh director. Complete harmony might be more natural but with equally unpleasant consequences.

If we could assume that the representatives of the city and those of the investors would always be high minded, clear headed, impartial men, the objection would not be so potent, but can we always expect this? The plan for the holding company directorate involves a divided responsibility, and this frequently encourages approval of acts which a central responsibility would shrink from.

There might easily result consequences not favorable either to the city or the investor. Unless the standard of municipal government is miraculously improved, it is inconceivable that so great an opportunity as this plan would present for political patronage and profit would be long disregarded. In the employees of the railroads and their families there would be an army of perhaps 100,000 voters, and there would be the constant temptation to require the construction of

new lines at the behest of local or political interests—lines not justified by their earning capacity. Investors would not be likely to intrust their properties to such an uncertain and unsafe control, nor would the best interests of the taxpayers be likely to be thus subserved.

2. The powers proposed to be conferred on the holding company are inconsistent with the professed intention of making the three lessee companies the real operating companies. These powers are not very specifically set forth in the plan, but from what there appears and from what has been suggested at the public hearing by the commission and its counsel, they apparently will be broad enough to cover pretty nearly everything connected with the management of railroads except the more or less mechanical work of actual operation. Remember that each of the three groups of railroads, although distinct and separate in their leaseholds and in their mortgage liens, will have nothing to say (except through their minority representation in the holding company) as to the use of their surplus income, as to the extensions or abandonment of their lines, even as to the turning over of parts of their lines to another operator, to the purchase of supplies, to the improvement of their facilities, to the issuance or non-issuance of transfers, and to many other matters that are related closely to growth in earning capacity, to the preservation of the properties and the integrity of their mortgages. The holding company will be the real operator and manager in all these respects.

3. The holding company will pay for the acquired railroads by its purchase money mortgage bonds issued at 100 per cent of the agreed value of the railroads and properties bought, will forthwith issue other obligations for working capital and for a fare barometer fund, and, as additional capital is required for extensions and improvements from time to time, will sell new bonds. If the investor is asked to part with his proportionate ownership in a railroad upon a deferred payment plan, he should at least be assured that his lien upon what he has sold will be amply protected and not diluted, and that its integrity should not be weakened by dividing income of his property among bondholders of another mortgage.

SUBSTITUTE PLAN PROPOSED

The holding company feature of the commission's plan is therefore not only of doubtful legality and open to serious practical objections, but its adoption is not necessary for accomplishing the purpose of the commission and it is not a straightforward following of the method laid down in the law. I suggest that all the objects of the commission can be better attained and with greater safeguard to the public and private interests by adopting in lieu thereof something like the following.

That each system of railroads convey title to its properties directly to the city at a fixed price representing

their fair value, subject to the lien of any existing mortgages thereon (the amount of which shall be deducted from the purchase price), possession to be finally surrendered upon the completion of payments of the net purchase price. Payment of this price to be made in semi-annual instalments of such amount as will amortize the net cost in a given number of years, with the option of the city to anticipate such payments and pay off the mortgage liens and thereby sooner to get possession.

That pending completion of payments, and as additional security therefore, the properties thus sold be leased back by the city to a corporation named by the sellers, upon terms substantially as follows:

The lessee to operate the properties, subject to the supervision of a board of control, and after paying operating expenses (including taxes and rents, if any), interest and amortization on existing mortgage liens, and providing suitable reserves, to pay over the balance of income to the city.

All funds required for additions, improvement and extensions (capital expenditures) to be furnished by the city.

The rates of fare to be fixed by the board of control, but not to be less than sufficient to permit the lessees to make the deductions from revenue authorized in paragraph above, and so far as practicable and reasonable to be uniform throughout the city.

BOARD OF CONTROL OF THREE SUGGESTED

The board of control to consist of three persons, one appointed by the Mayor, one by the lessee companies, and one by the Governor, and to have general supervisory and regulative powers, including that of audit of accounts.

This arrangement would practically leave it optional with the city when it should avail itself of complete ownership and possession of the properties, and what extensions and improvements should from time to time be made.

From the point of view of the owners of the railroads the substitute plan which I have suggested would have the additional advantage that each system of railroads would stand, so to speak, upon its own bottom. Its revenues would not be subject to diversion to the interests of other railroads or other railroad owners, as would be the case under the commission's plan.

The plan which I have suggested would, more than the commission's plan, eliminate politics from the transportation problem. The city and the operators would have a common aim. Hostility, lack of co-operation, public prejudice, suspicion, would have no justification.

The receivership, or near-receivership, of the companies would facilitate such an arrangement. I can see no insuperable obstacle to carrying it out providing the valuation of the properties is fair and ample safeguards surround its payment. All speculation in traction securities would cease.

The various companies would take from the lessee company representing them the interest and amortization paid on any existing bonds, and pay it over to the bondholders or their representatives. They would likewise receive from the city the payments to be made by it and apply them in liquidation of the remaining equity. When all should be done they would quietly pass out of existence.

*Abstract of statements presented at hearing of the New York Transit Commission, New York, Dec. 7, 1921.

Engineering Societies Honor Marshal Foch

The Four National Organizations Elect the French General to Honorary Membership in Recognition of His Ability to "Direct Human Energy"

MARSHAL FOCH was placed at the head of the honor roll of the organized engineering profession of the United States when he was elected on Dec. 13, the day before his return to France, to honorary membership in the four national engineering societies. The organizations whose governing boards unanimously conferred this distinction upon Marshal Foch were the American Society of Civil Engineers, American Institute of Mining and Metallurgical Engineers, American Society of Mechanical Engineers and the American Institute of Electrical Engineers.

The certificate of honorary membership was presented by Col. William Barclay Parsons, who commanded the Eleventh Engineers, the first engineer regiment to go abroad, and one which gained great fame.

The ceremonies were held in the auditorium of the Engineering Societies Building. On the platform were the presidents of the four founder societies or their representatives as follows: L. P. Alford for Dean Dexter S. Kimball of Cornell, mechanical engineers; George S. Webster, Philadelphia, civil engineers; Calvert W. Townley, for William McClellan, Philadelphia, electrical engineers; and Edwin T. Ludlow, New York, mining engineers. Others in the platform group were Ambrose Swasey of Cleveland, Commander Legion d'Honneur and founder of the Engineering Foundation; Charles F. Rand, chairman of the Engineering Foundation; Col. William J. Milgus, Col. A. S. Dwight and E. D. Adams.

J. Vipond Davies, president of the United Engineering Society, presided and made the opening speech. This follows in part:

"This action is unprecedented in that it has been taken at one and the same time and is to be conferred by one instrument. It is epochal to our societies in that it constitutes one more bond of union between the several branches of our profession, as represented by our Founder Societies, and our professional brethren in France.

"The United Engineering Society, the board of trustees of which I have the honor to be the presiding officer, is, as its name implies, an integral part and parcel of the functions and activities of our founder societies, holds title to this building and property, and administers its research department known as Engineering Foundation, directed by Charles F. Rand as chairman, and Alfred D. Flinn, as secretary, and also the library, which we claim to be the best equipped technical library of engineering in existence, with Dr. Harrison W. Craver, as director."

Colonel Parsons then delivered in French the following address:

"The art of engineering was defined a long time ago as 'the art of directing the great sources of power in nature for the use and convenience of man.' No better definition can be found today. Of all the sources of power in nature, the greatest, most valuable and at the same time the most difficult to direct is the energy of man himself. He who can direct human energy and turn it to the service of mankind is a great engineer.

"You, Marshal, have directed a greater mass of human energy than

any other man has ever done. And you have successfully directed this mass for the highest uses of mankind, in that you by its aid have preserved for him one of the most precious of human possessions—liberty! Liberty not only for your own illustrious country, but for all the nations of the world.

"The four national engineering societies of the United States now desire to make record of their appreciation of this fact and to convey to you an expression of their most profound admiration for the great leader of men by conferring on you honorary membership in all the societies, the highest honor in their gift and one hitherto never conferred on a single individual.

"Four thousand members of these societies were enrolled in the armed service of the United States, the greater part of whom had the glorious distinction to serve the common cause in France under your orders. They heard the voice and they saw the hand of the master as he led them through battle to victory. Now we desire that you will still continue to lead us, but in peace, by permitting us to inscribe your name at the head of our roll of honor, where it will be, as your deeds have been, an example to us to do better work, and where it will remain forever a noble inspiration for all future generations."

Mr. Webster then presented to Marshal Foch the beautifully engrossed certificate of honorary membership.

Marshal Foch responded, by paying the following tribute to the part of engineers and engineering in the war:

"It was due largely to the engineers and the engineering industries that the

war was brought to a successful conclusion. The armies could not have accomplished much without the effort of the engineer. Success was made possible to a great extent by the industry of the people at home, but when decisive moments arrived the engineer stood out as an essential factor in attaining success.

"What would have become of the armies without the engineering industries and without the professional knowledge which you exercised and which enabled us to lead our armies in the field, to feed them, to protect them and to facilitate their forward movement.

"It is for these reasons that I am pleased to be here today, to receive so splendid a welcome, to express my gratitude and that of France and of all my countrymen for the splendid sacrifices made by the men of your calling. I am grateful to you for including me in your ranks as one of the members of your four national engineering societies. This honor I deeply appreciate, and I shall always cherish this event with the happiest memories."

A statement issued by the engineering societies emphasized the character of Marshal Foch as an engineer. The statement said:

"The fundamentals of engineering achievement are co-operation and co-ordination. It was the ability of Foch to supplement his military genius with the effective co-operation of the commanders of the armies of five nations and the co-ordination of their operations that won the great victory.

"Ferdinand Foch studied engineering in Ecole Polytechnique and Ecole d'Application d'Artillerie. He served on the technical section of the Ministry of War early in life, and in later years was a full professor in Ecole de Guerre.

How to Keep Cars on Time

Members of New England Club Discuss Papers of Messrs. Whitney and Bolt—Hon. Henry C. Atwill Gives Informal Talk on "Relations Between City Governments and Street Railways"

THE papers on how to keep cars on time, presented at a meeting of the New England Street Railway Club on Dec. 1, by Howard F. Whitney, Springfield Street Railway, and W. C. Bolt, Eastern Massachusetts Street Railway, were published in abstract in last week's issue of this paper. An abstract of the discussion on these papers, at the afternoon meeting of the club, follows:

R. B. Stearns, vice-president Eastern Massachusetts Street Railway, emphasized the value of regular service in maintaining good public relations. Frankness in explaining street railway problems to the public is essential. Punctuality also keeps down costs, and close co-operation between rolling stock maintenance and operating departments is vital. Pull-ins have been reduced on the Eastern Massachusetts system from 1,000 to 750 per month in the past year. The 30,000-mile overhauling schedule of this system appears to be a money-maker in preventive maintenance. A bonus divided between car-service and maintenance men for punctual car movement works extremely well, figuring cars within 5 per cent of on time at terminals during a month and appraising the value of the time saved in the setting apart of this money on a 50-50 basis between the two classes.

L. D. Pellissier, president and general

manager Holyoke Street Railway, urged the importance of helpful supervision of car movement and of provision for rapid loading and unloading of cars. Team-play among operating forces, restriction of automobile parking in congested sections, safety areas and rapid fare collection all aid in schedule efficiency.

John Lindall, superintendent rolling stock and shops, Boston Elevated Railway, suggested giving the public information as to the percentage of trips run on time, together with classified delays and causes thereof. Tact in trying to remove obstructions to traffic is of more avail than a hostile attitude. Motor-operated wrecking trucks equipped with cranes, manned by crews skilled in clearing up breakdowns and capable of proceeding to a blockade on the highway surface have proved of great value in Boston compared with the old method of sending out trolley wrecking cars. The wrecking trucks now in use at Boston can lift loads as high as 10 tons by blocking under the rear end of a chassis frame and can lift and carry with the crane 5 tons. The trucks are rated at 3.5 tons, with White chassis and power-driven winches and "nigger heads." The speaker felt that better supervision can be given by traffic executives from automobiles

than from street cars, owing to the limitations of movement of the latter.

H. F. Fritch, assistant general manager Eastern Massachusetts Street Railway, said that punctuality of car movement should be sought throughout the entire organization of the modern system. The psychological effect of pull-ins on the public is not good. E. S. Wilde, vice-president, Union Street Railway, New Bedford, Mass., advocated diplomacy in dealing with track obstructors. In addition to using automobiles, superintendents in New Bedford ride over the system in the cars at least monthly and report their findings. Regularity of service is more valuable than speed. Mr. Pellissier emphasized the importance of flash signals at critical points and of ample telephone facilities in minimizing traffic delays due to slow notification of executives, mechanical and operating departments of trouble. Others who discussed the value of good service were A. B. Hale, Griffin Wheel Company, Boston; Thomas Kendrigan, Manchester Street Railway, Manchester, N. H.; R. D. Hood, Dover, N. H., and R. R. Anderson, superintendent of transportation United Electric Railway, Providence, R. I.

CHAIRMAN ATTWILL EMPHASIZES MUTUAL INTERESTS OF RAIL- WAYS AND PUBLIC

With President Dana in the chair, the evening session of the club was marked by an address by Hon. Henry C. Attwill, chairman Massachusetts Department of Public Utilities, upon "Relations between City Governments and Street Railways." In a comprehensive and informal talk which was listened to with keen interest by the largest gathering in the history of the club outside of an annual meeting (162 were present), Chairman Attwill sketched the unity of interest prevailing between successful public utilities and the communities which they serve. He emphasized the willingness of the public to co-operate with companies whose problems and needs are set forth frankly and understandingly, notwithstanding the noise of agitators. Conservative operation pays, the speaker said, and he urged a conduct of affairs which will produce something of that confidence on the part of the investing public that it feels toward the savings banks of Massachusetts. "Customer ownership" of electric railway securities was also advocated as a means of bettering conditions. The "square deal" offers a better means of securing good public relations than insistence on "constitutional right."

In the discussion which followed the presentation of Mr. Attwill's address, H. H. Crapo, president Union Street Railway, New Bedford, advocated co-operation with municipal authorities.

New York Railroad Club Dinner Well Attended

THE third annual dinner of the New York Railroad Club was held in the grand ballroom of the Hotel Commodore, New York City, on Thursday evening, Dec. 15. A large number of electric railway men helped to swell the attendance on this occasion. Frank Hedley, president and general manager of the Interborough Rapid Transit Company, New York, acted as toastmaster. Addresses on railway conditions together with a fine musical program furnished the evening's entertainment.

Joint Convention of Illinois Associations

THE joint convention of the Illinois Gas Association, the Illinois State Electric Association and the Illinois Electric Railways Association will be

held on March 15 and 16, 1922, at the Hotel Sherman. The morning sessions will be joint sessions while in the afternoon separate technical sessions will be held for each association. The annual banquet will be on March 15. The complete program will be available soon.

American Association News

Bus Operation to Be Studied

THE first meeting of the committee on trackless transportation of the American Association was held at association headquarters on Dec. 15. Among those present were: H. B. Flowers, United Railways & Electric Company of Baltimore, chairman; W. J. Flickinger, the Connecticut Company, New Haven, Conn.; H. B. Potter, Boston (Mass.) Elevated Railway; and J. N. Shannahan, Newport News & Hampton Railway Gas & Electric Company, Hampton, Va. Secretary J. W. Welsh, who was also in attendance, explained that this committee was in full charge of the study of trackless transportation by the association. There will be two co-operating committees to work with the American committee, one from the Engineering Association and one from the Transportation Association.

The committee plans to make a complete study of the economic situation. It is to prepare instructions for investigation by the engineering committees in regard to proper designs and refinements of equipment. The transportation committee is to be asked to study the proper place of the bus in the transportation field and what routes are proper for establishment. This also brings up the question of mass transportation.

Other investigations will be made to establish the principle of financing extensions into undeveloped fields and whether a trolley bus or motor bus is to be used; a discussion of regulation and franchise requirements, a discussion of the question of abandoning tracks on unproductive lines or substituting trackless transportation for existing service in sections now supplied when the structures need renewal. The report is also to define a policy on the whole problem and draw conclusions.

Power Distribution Committee Starts Work

THE power distribution committee of the Engineering Association held its first meeting of the year at the association headquarters, New York City, Wednesday, Dec. 14. Those present were M. B. Rosevear, Public Service Railway of New Jersey, chairman, J. R. C. Armstrong, Brooklyn City Railroad; H. S. Burd, National Conduit & Cable Company, New York City; R. W. Eaton, public service engineer, Providence, R. I.; G. C. Hecker, Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.; H. D. Hawks, Anaconda Copper Mining Company, Chicago, Ill.; Adrian Hughes, Jr., United Railways & Electric Company, Baltimore, Md.; H. S. Murphy, Philadelphia Rapid Transit Company, Philadelphia, Pa.; Charles H. Jones, Metropolitan West Side Elevated Railway, Chicago, Ill.; F. McVittie, New York State Railways, Rochester, N. Y.; G. Hall Roose-

velt, General Electric Company, Schenectady, N. Y.; and F. J. White, Okonite Company, Passaic, N. J.

The various subjects which have been assigned to the committee were discussed in considerable detail and subcommittees were appointed to follow up the work closely. Several recommendations were made to the executive committee for additional standardization work that it appeared desirable to have sectional committees of the American Engineering Standard Committee undertake. These included specifications for overhead wire crossings and a specification for high conductivity trolley wire. The subject of standard specifications for wire cables which is now under consideration by a sectional committee of the American Engineering Standards Committee was discussed and the detailed organization with provision for a technical committee was outlined. The power distribution committee has a very full schedule of work for this year and its early start together with the interest that was manifested by the large attendance indicates that much work will be accomplished.

Connecticut Company Section Elects New Officers

THE fortieth and annual meeting of the Connecticut Company section of the American Electric Railway Association was held in New Haven, Conn., on Dec. 7. About 100 members were present who were entertained at the opening with a concert by the Connecticut Company section band of thirty-five pieces. This band, made up of the employees of the Connecticut Company, was organized a short time ago under the supervision of I. A. May, comptroller.

The meeting was opened by President Harlan. Election of officers for the coming year took place and the following were elected: President, C. H. Chapman, manager of the Waterbury division; vice-president, S. W. Baldwin, attorney; secretary, C. K. Savery; treasurer, George H. Crosson, and director for three years, A. L. Donnelly, division engineer.

The speaker of the evening was Leonard M. Tarr, who is in charge of the weather bureau at New Haven. He gave an interesting talk on the weather, its causes, etc.

Chicago Section Meeting

THE November meeting of the Chicago Elevated Railroad section of the American Electric Railway Association was held on Nov. 30, with an attendance of about 125 members. After some musical entertainment C. G. Goodsell of the Chicago, North Shore & Milwaukee Railroad gave an interesting talk about the Americanization work which is being done on the North Shore line.

News of the Electric Railways

FINANCIAL AND CORPORATE :: TRAFFIC AND TRANSPORTATION
PERSONAL MENTION

Company Makes Three Proposals

Grand Rapids Dispute Approaches Settlement with Railway's Valuation Offer

New negotiations between officials of Grand Rapids, Mich., and the Grand Rapids Railway have apparently brought the traction difficulty in that city much nearer a settlement than it has been for many months. Three new proposals made by the company form the basis for the recent discussions and may serve as a chart by which both parties may successfully sail through the Scylla and Charybdis of valuation and depreciation which have destroyed so many previous conferences.

Elimination of bus competition, which the company has insisted on throughout the discussions, seems temporarily assured with the refusal of Judge Dunham, on Dec. 5, to declare the jitney ordinance invalid until it is attacked by someone with a legal right to do so. As a result jitneys which have been operated without a license have been ordered from the streets.

The three proposals of the company are as follows:

1. A valuation of \$5,950,000 with the right of either party to a revaluation at the end of five years.
2. A valuation of \$5,650,000 for the full term of thirty years.
3. A thirty-year franchise, leaving the matter of revaluation, rate of return and depreciation allowance to the Michigan Public Utilities Commission for the life of the franchise.

In case none of these is satisfactory the company suggests that the problem be referred to the Michigan Public Utilities Commission for settlement, since the company's financial condition requires immediate action.

The figures presented by the company were arrived at by using, for a basis of computation, the figures offered City Service Director Wagner from time to time. General Manager DeLamar in a letter said that on the compromise basis of an assumed 35 per cent appreciation instead of the actual 51 per cent, the valuation is \$6,844,419. According to these computations, the valuation of \$5,950,000 is \$811,946 less than the present fair value as shown in them, and the valuation of \$5,650,000 is \$1,111,946 less than the present fair value.

Both propositions are based on an 8 per cent return, which was previously tentatively agreed upon, and both include an allowance for depreciation of 3 per cent on physical property, all allowances unexpended to be charged with interest at a rate to be mutually agreed upon, and subject to future agreement, with arbitration if necessary.

Service Director Wagner some time ago placed a valuation of \$5,100,000 upon the Grand Rapids Railway property, but later placed the figure at \$5,450,946. The company has come down several million dollars. The later proposition made by Mr. Wagner was that the city could without hesitation offer the valuation the company asked, providing the annual depreciation is equal to

the retirements, and that all above this belongs to the people and represents their investment in the property.

As Mr. Wagner explained it the plan would also overcome the present generally agreed impractical method of tying up depreciation money so it could not be used for improvements and extensions, and at the same time automatically correct itself and make it to the interest of the company to reduce fares and increase service.

In figuring price trend, Mr. Wagner placed it at 25 per cent above normal instead of 54 per cent as Attorney Knappen for the company contended was the government figure.

With the temporary lapse in the bus dispute, troubles seem to be clearing. Judge Dunham in his opinion and decree, however, said that he was not passing on the validity of the ordinance but on the contention of the city that having applied, and having been granted and having acted under the ordinance, the jitney men themselves could not attack it. Bondsmen who were holding bonds for the drivers recently forfeited them, and the drivers were unable to continue. As yet the amendment to the jitney ordinance has not been presented to the City Council.

Amicable Agreement Reached in Baltimore

After careful consideration of the company's problems, the cost of living, and the general downward trend of prices, representatives of the United Railways & Electric Company, Baltimore, Md., and its employees have reached an agreement under which there will be a reduction in pay of 2 cents an hour, beginning Jan. 1, 1922. This reduction applies to platform men, shopmen and certain other classes. The salaries of office forces will be reduced 4 per cent.

The agreement authorizes the company to employ in its construction gangs laborers at current market rates.

The new arrangement was decided upon after a series of conferences at which the officials of the company met representatives of every department. Both sides expressed themselves frankly and freely, and there was complete harmony throughout the deliberations.

Newspaper comment in Baltimore lauds the co-operation and splendid spirit existing between the officials of the railway and its employees. The *News* under date of Nov. 30 says:

For years back the United Railways has made a practice of sharing its prosperity with its employees. It has maintained something more than a working agreement with them; it has established in their relations an all-in-the-family feeling. The company, the men and, no least, the public have all benefited from that policy.

The *American* of the same date says:

The last effort of the local employees for a wage increase, made about a year ago, furnishes a good illustration. The request was for a 15-cent advance. The United offered a 2-cent advance and submitted the figures to prove that this was all it could afford. The men voted on the proposition, accepted it and stayed at work. They have followed the same policy in this instance of a wage decrease.

Final Brief Filed in Fare Controversy

Chicago Case Taken Under Advisement by Federal Judges—Staggered Hours Suggested

With the filing of the last brief on Dec. 12 the fare case of the Chicago Surface Lines was taken under advisement by Federal Judges Baker, Carpenter and Page in the United States District court. The documents filed by the city of Chicago and the Illinois Commerce Commission consisted largely of an attempt to point out items of savings which would make a 5-cent fare order possible.

Unfortunately for the representatives of the public, as suggested in the company's brief, these items were not supported by evidence offered during the hearing and therefore could not be used as a basis for the order. Attorneys for the companies assert that there was no evidence which justified the order and that the case "rests upon nothing more substantial than conjecture or hopeful prophecy." On the suggestion of the commission for a wage reduction, the company's brief says:

No evidence was offered that the salaries of office employees or the wages of labor could or should be reduced. On the contrary, all the city's witnesses were opposed to the idea of any reduction in the present wage scale.

Hearings have been going on before the local transportation committee of the City Council on the question of solving Chicago's transportation problem, with particular reference to subways. All kinds of suggestions have been made, including a proposal to experiment with a monorail system. A plea for adoption of staggered hours was made on Dec. 8 by Harold Almert, representing the American Association of Engineers. He said this would cut congestion and crowding in half and would require no capital expenditure. He suggested as a first move the passage of an ordinance creating a commission.

Proposed New Houston Grant Favorably Received

The City Council of Houston, Tex., has discussed the proposition submitted by officials of the Houston Electric Company for an extension of its franchise and a compromise agreement on the fare controversy that has involved the traction company and the city for the last two years. No formal action has been taken by the city government, although Mayor Holcombe and all members of the Council have expressed approval of the proposition as submitted by Luke C. Bradley, district manager for Stone & Webster.

The offer of the company to compromise the fare controversy was submitted when it was seen that the city would enact an ordinance reducing fares from 7 cents to 5 cents when tickets are purchased in packages of twenty for \$1. It was proposed that individual cash fares when paid on the cars should remain at 7 cents. Sewall Myer, city attorney, had been instructed to draft

an ordinance along these lines to be submitted at the next meeting of the Council. Its immediate passage is quite certain.

Summed up, the proposition submitted by Mr. Bradley is as follows:

The company agrees to spend not less than \$1,200,000 within two years, in such order as the Council may designate, for additions, extensions, new cars, equipment and other betterments.

As soon as these improvements are made and the company is in position to give adequate service at a lower cost, the first reduction will be the selling of four tickets for 25 cents. Such future reductions in fare will be left to the fairness of the City Council. Pending this time fares will remain at 7 cents. The city will drop its present fare ordinance to compel the traction company to sell twenty tickets for \$1.

The city in return for promised improvements and fare reduction will grant an extension of the present franchise for a period of sixteen years, such extension to become effective only after the railway has complied with its agreements with the city for extensions and fare reduction.

Strike Averted on Suburban Line

A threatened strike of the trainmen operating the lines of the Seattle & Rainier Valley Railroad, Seattle, Wash., has been averted, and a compromise agreement on a new wage scale, retroactive to Oct. 1 and effective to next April 1, has been ratified at a mass meeting of the railway employees. The new agreement, which involves 120 men, fixes a wage scale dating from Oct. 1, of 53, 56 and 62 cents an hour, according to the length of service of the men, with a maximum payment of 66 cents to one-man car operators. The scale represents a cut of about 10 per cent.

The company's contract with its employees expired on Oct. 1, and on Aug. 17 notice was given the men that a new wage contract would be sought. Since that time various proposals and counter proposals have been made, without an agreement. A deadlock was reached, when both parties failed to agree on a third arbiter to an arbitration committee. The company's proposal, rejected by the men, set a scale of pay retroactive to Oct. 1, as follows:

The month of October, 56½, 59½ and 62½ cents an hour; November, 53, 56 and 60 cents, and December, 51, 54 and 58 cents.

Effective Dec. 1, time and a half for overtime was to be paid after eight and one-half hours, except that extra men working piece runs would not receive time and one-half for overtime until after ten hours.

Conductors working one-man cars and those relieved on the road to be paid ten minutes straight time for making up turn-in reports; instructors to receive 5 cents an hour above basic scale.

General W. M. Brown of the traction company said:

The whole difficulty is not that the men employed on this property do not understand that a wage adjustment downward is due, but they fear the criticisms of the municipal employees who are striving to maintain a wage considerably in excess of that paid by private industries all over the country.

Survey Ordered.—At the meeting of the San Francisco Board of Supervisors on Nov. 21, the city engineer was ordered to study and make plans for a four-track subway under Market Street from the Ferry to Valencia Street, a distance of about 2½ miles. This was proposed as a means of relieving the increasing congestion of this important thoroughfare and making its entire width through the business district available for vehicular and pedestrian traffic. The proponent of the measure said he did not anticipate immediate construction, but thought a start should be made on such a project.

McGraw-Hill Company Acquires "Review"

The Paper Will Be Published Monthly
for Practical Electrical Men in
Industrial Plants

The McGraw-Hill Company, Inc., has purchased the *Electrical Review* and will continue to publish it, beginning January, 1922, in Chicago, but as a monthly. Its title will be changed to *Electrical Review and Industrial Engineer* and it will be devoted to electrical and mechanical operation and maintenance in mills and factories. The publishers believe that there is a growing demand in such installations for specific and practical information on the operation of electrical systems by those who take up the work where the consulting, designing and installation engineers leave off. To these practical men, a service not heretofore available will be provided.

As in the past, *Electrical World*, the national weekly, will be devoted to the problems of executives and electrical engineers responsible for the administration of policies, for engineering developments and for practices in all branches of the electrical industry. Its editorial scope, except for broadening, remains unchanged, and embraces (1) the fundamentals of electrical engineering as a profession; (2) production, distribution and application of electrical energy as a service; and (3) the broad problems of production, distribution and application of electrical equipment and merchandise as a business.

Indianapolis Company May Seek Relief

Announcement was made recently by Dr. Henry Jameson, chairman of the board of directors of the Indianapolis (Ind.) Street Railway, that the company will lay before the Public Service Commission its entire financial problem and ask for a readjustment after the first of the year unless the company's revenues are improved considerably by the stoppage of jitney bus competition.

Dr. Jameson's statement was in the nature of a comment on a request by the Board of Public Works for representatives of the railway to appear to explain why a petition has not been presented to the Public Service Commission for relief from costs of paving between tracks. Dr. Jameson said that tests are being made to learn if enforcement of the jitney regulation ordinance is raising the company's revenues. As yet no definite figures have been compiled. Dr. Jameson said:

The railway must have more income than it has at present either by raising fares or by elimination of special taxes. At the proper time the whole financial problem will have to be put up to the Public Service Commission. We have not formulated any general plan of action yet, but we know that the company cannot progress and be rehabilitated until an adequate income is provided, thus assuring credit.

At conferences held between city officials and representatives of the railway since the company's franchise was surrendered for an indeterminate grant the company has insisted that it should be relieved of paying the cost of paving between tracks. The company asked also that it be relieved from paying the \$30,000 annual franchise tax to the city and the entire amount of \$500,000 was declared forfeited to the city when

the company did not make this payment last spring.

During subsequent conferences, Dr. Jameson and other directors of the company said they would take the matter up with the Public Service Commission in an effort to be relieved from paying paving costs. Members of the Board of Public Works said recently that a reasonable time has elapsed, but that the company has not put its case before the commission.

Asks New Estimates for Electrification

Estimates for the electrification of nearly 40 miles of track of the Delaware, Lackawanna & Western Railroad near Scranton, Pa., have been asked by officials of the company. The General Electric Company and the Westinghouse Electric Company are preparing the figures, which are expected to be ready March, 1922. The railway rejected bids submitted last summer.

Tax Amendment Introduced

A very determined effort will be made at the present session of Congress to secure legislation to limit or prevent the issuance of tax-free securities by states and their sub-divisions. Representative Foster of Ohio has introduced a constitutional amendment which provides that Congress "shall have power to lay and collect taxes on incomes derived from obligations issued or created by a state or any political sub-division thereof after the ratification of this article, without apportionment among the several states and without regard to any census or enumeration."

The difficulty with any constitutional amendment is the probability that its ratification by the States will be very difficult to secure. A suggestion which is receiving serious consideration is the placing of a heavier inheritance tax on tax-free securities. Any such legislation would be reflected immediately in the sales value of such bonds and would act as an automatic check on their sale. There is a very general feeling in Congress that some way will be found to limit the issuance of such securities.

Picketing Lawful, but Intimidation Illegal

The Supreme Court of the United States on Dec. 5 held that picketing in labor disputes is lawful, but must be done by a single striker at each entrance or exit, but intimidation is illegal, in the case of the American Steel Foundries vs. the Tri-Cities Central Trade Council, growing out of a threatened strike at Granite City.

The court upheld the right of labor men to persuade men to discontinue work and join the strikers, if done by personal persuasion, but not by assembling a large number of strikers at entrances of a plant where a strike is in progress, which may lead to intimidation and civil disorder.

The court held that labor organizations are legal under the Clayton law and that they may use all lawful methods to enlarge their membership and influence in labor matters.

The decision of the Circuit Court of Appeals was affirmed in part and reversed in part. Associate Justice Brandeis concurred in the result and Associate Justice Clarke dissented.

New York Inquiry Nearing Close

The First Stage of the Investigation Now in Progress Before the Transit Commission Appears to Be Drawing to an End—Valuation Hearing Early in 1922

General agreement was expressed during the hearing before the Transit Commission of New York this week with the tentative outline of the commission's plan although criticisms were offered with respect to some of the details. The first stage of the inquiry appears now to be drawing to a close. It is promised by the commission that early in 1922 that body will probably be prepared to go ahead with consideration of the various valuations.

N. F. Brady, chairman of the board of directors of the Brooklyn Rapid Transit, followed President Williams of that company on the stand before the New York Transit Commission in the session of that body on Dec. 7. Mr. Brady was questioned more particularly by the counsel with respect to the policy that had been adopted by the company on declaring dividends during 1917 in the face of the knowledge that the company was making a poor showing compared with the year before and that the company was faced in the following year with the burden of \$57,000,000 of maturing notes.

Mr. Brady said that the situation was not nearly as gloomy as counsel for the commission had assumed; that there was sufficient surplus shown on the balance sheet of the company; that the company had earned the dividends, and that he doubted whether the company would have been justified in passing payments before it did.

Again the question was brought up, as in the case of President Williams, of the obligation of which the company felt toward holders of stock to the amount of about \$30,000,000, who were formerly bondholders and had been induced to convert their bonds into stock on the basis of the dividend showing of the company over a number of years previous to conversion.

The consideration that governed the financial policies of the company with respect to dividends is contained in the answer "yes" of Mr. Brady to the following question of counsel for the commission:

Your position then is, as I understand it, that although the conditions were looking bad early in 1917, as you stated to your stockholders and had recorded in your minutes, and although the cost of labor and materials was mounting, and taxes were mounting and you were in considerable difficulties in the matter of whether you would be able to finance these \$57,000,000 of notes, that taken all in all, as long as you had earned the dividend, you felt that you would not be justified in discontinuing it during 1917 on account of the effect that it might have on the investors' minds, on the ability of the company to finance its future requirements, and on account of what Col. Williams called your moral obligation to stockholders, and the other elements you have mentioned?

Lindley M. Garrison, former Secretary of War, and now receiver for the Brooklyn Rapid Transit Company, on Dec. 8 criticized some features of the preliminary plan drawn by the Transit Commission, but added that he was in general accord with the proposals.

On the witness stand for about four hours Mr. Garrison said that he did not wholly agree with Colonel Timothy S. Williams, president of the Brooklyn Rapid Transit Company, that the proposal for a board of control of seven men would offer large opportunities for abuse that Mr. Williams thought existed in the proposal plan, but said that it did present an opening for an undesirable political domination of the city's transportation system.

He spoke of the difficulty of having the so-called A company, or holding

company under the plan, borrow additional money for the transit system because it would have pledged all its properties as security for the payment of the purchase price of the lines. Agreeing in part with the suggestions made by Colonel Williams before the commission, he said that the time must come when the city would have to finance the transit system.

Both Mr. Garrison and W. S. Menden, the general manager of the Brooklyn Rapid Transit lines, told of the results of operation under receivership. They described the abolition of transfer points, coal costs, need for rehabilitation of the lines, and general physical condition. They also told of the passing of the Brooklyn City Railroad lines back to their owners to operate.

Testifying on Dec. 12 on the general condition of the lines of the Brooklyn City Railroad, which operates about 50 per cent of the surface tracks in Brooklyn, H. H. Porter, president of that company, said that the company had observed an increase in profitable short haul traffic and was showing a profit above all charges. He reported that costs were going down and that efficiency of labor was increasing.

Mr. Porter said:

I may say that the directors and officers of the Brooklyn City Railroad will, of course, co-operate with the commission in every way to effectuate this plan, if they feel it can be done safely for the security holders. The Brooklyn City Railroad, occupying the position it does, and myself, occupying a relative position to the security holders, feel a great deal of hesitancy in making a definite commitment.

We have no great banking houses to look after and advise our security holders. About half of the stockholders are women, and we, therefore, have an unusual responsibility. I am in thorough accord with the principle of consolidation and putting all the properties together and with the proposal for taking them over into an ownership by the city, and meantime to have them operated by the present security holders.

I feel, however, that there are two very important conditions attendant upon effectuating such a plan. One is the absolute security for the payment of interest, the 5 per cent interest on the funds to be secured; and, secondly, the safety of the principal until it shall have finally been amortized. That means that either the security holder must pin entire faith upon the company or the security holder must fall back upon the security of the property.

I feel very strongly that the suggested board of control would not work for the efficient or would not lend itself to the most efficient operation of the system. I believe that the highest and best efficiency in any organization can only be secured by fixing the responsibility and narrowing it down, and that such a board of control will serve to diffuse the responsibility between the operating officers and the board of control.

It is only by securing the highest efficiency that we can hope to have a 5-cent fare or less. I think that is my principal criticism of the plan, except that I feel that the form of contract should so assure the holder of the security of the payment of the 5 per cent interest that there would be no possibility of having to take the property back.

It was at the session on Dec. 12 that George McAneny, chairman of the Transit Commission, hinted that criticism of the proposal for a board of

control of seven members had been so general among traction experts that this feature would be revised when the revised plan was formulated after the hearings have ended.

Both Mr. Morrow and Arthur M. Anderson, head of the bond department of J. P. Morgan & Company, testified on Dec. 13 about Interborough finances. While Mr. Anderson was testifying it developed that the Morgan firm as far back as 1914 advised against starting dividends on the preferred stock of the Interborough-Consolidated Corporation, then under formation to succeed the Interborough-Metropolitan Corporation, only to have the warnings disregarded.

After it had been brought out that J. P. Morgan is chairman of the Interborough bondholders' protective committee, of which Mr. Morgan is a member, Mr. Morrow said he had studied the commission's settlement plan and proceeded step by step to announce his approval of various features enumerated by Clarence J. Shearn, special counsel to the commission.

It was made clear that Mr. Morrow's comment was not to be considered final nor to bind the committee in any way. He explained that the matter had not formally been placed before the committee which awaited the final statutory plan expected to be ready next month. Mr. Morrow was, however, inclined to accept the board of control idea, adding "you cannot put together any plan, you cannot make any provision for the future which will not have in it perils of all kinds, whether you have private management or whether you have public management."

Mr. Beeler to Assist in Solving New York City Situation

Announcement was made by the New York Transit Commission early in the week ended Dec. 17 that John A. Beeler, the well known consulting engineer, has been appointed consulting traffic expert by the New York Transit Commission and will begin work right away on an investigation and report on re-routing the surface lines in New York City. For work of this kind Mr. Beeler is especially qualified from his experience as constructor and operator of electric railways. For thirteen years he was constructing engineer and chief engineer of the Denver Tramway, and for the twelve following years he was the chief operating executive at Denver.

For the past six years Mr. Beeler, acting as individual consulting engineer and traffic expert, has studied and reported on traffic problems in a number of important cities in this country. One report was on Boston for the State of Massachusetts. Another report was on the situation in Washington, D. C., for the Public Utilities Commission of the District of Columbia. Later he reported for the Board of Control on railway matters in Kansas City. Recently he has been engaged in a study of the situation in Chicago, where a re-routing plan for the surface lines, as recommended by Mr. Beeler in his testimony, has been ordered to be installed. The selection of Mr. Beeler in New York would indicate that the New York Transit Commission is in favor of adopting the most modern methods of service by the various operating companies, through an examination of what ought to be done to supply New York citizens with 100 per cent service.

Pittsburgh Plan Advanced

City Council Approves Revised Settlement Agreement—Solution of Railway Problem Brought Nearer

After a delay of two weeks, during which time many conferences have been held between Mayor Babcock, Mayor-elect Magee and City Council, for the purpose of making revisions in the plan for the new franchise and the reorganization of the Pittsburgh Railways outlined in the *ELECTRIC RAILWAY JOURNAL*, issue of Nov. 26, the plan as revised has been approved by all interested parties including Council, which passed on it Dec. 13. It will come up for final passage by Council in a few days, after which it will go to the Public Service Commission for ratification.

TO END RECEIVERSHIP

With approval by the commission, steps will be taken by the company to terminate the receivership and provide \$5,000,000 additional capital necessary to give effect to the agreement. Reorganization of the railway will follow and the railway properties, under the Public Service Commission valuation of \$62,500,000, with a stipulated annual return of 6 per cent, will be operated as a unit.

The board of control, with amplified powers under the amended plan to give the city supervision of the service, facilities, rates, charges and finances of the company, and of its extensions, will be known as the Traction Conference Board, it was decided by the committee.

COMMITTEE APPROVAL GIVEN

The approval of the Committee on Public Service and Surveys of City Council was given without discussion. George N. Monro, Jr., special city counsel in charge of public utilities litigation, advised the committee that all parties interested had agreed to the plan and form of agreement, with the amendments recently drafted.

The amendments were drawn as the results of numerous conferences during recent weeks of Council, Mayor Babcock, Mayor-elect Magee, A. W. Thompson, president of the Philadelphia Company, City Solicitor Charles B. Prichard, Mr. Monro and A. W. Robertson, counsel for the company.

The plan was presented to Council on July 25 last, and was ordered to be publicly circulated. General approval by civic organizations and the public followed. Public hearings were held by the Councilmanic committee. Some organizations of the Allied Boards of Trade proposed an alternate plan, based on the Cleveland plan of operation, which has been studied by the committee and found its main features not to be applicable locally, although desirable provisions of it were a part of the local plan.

Joint Operation Started in Detroit

Joint operation between the Detroit United Railway and the Detroit Municipal Railway on Trumbull Avenue was set for Dec. 15. For several days previous to that date the Peter Witt cars of the municipal railway were run over the Trumbull line to familiarize the city motormen with the route and to instruct the Detroit United Railway motormen who will become city employees with the details of operation of the new cars. Arrangements were made to issue transfers

from the Municipal cars on the Trumbull line to all connecting lines of both systems.

The agreement for the joint operation of cars has been drafted by Elliott G. Stevenson, counsel for the Detroit United Railway, and approved by Corporation Counsel Clarence E. Wilcox and will become effective as soon as signed by both parties. The agreement is understood to contain the detailed arrangements for the joint operation on the lines affected. The agreement is drawn so as to be effective on a day-to-day basis and may be repealed by either company at any time it may elect.

With the termination of the joint operation the situation will return to the status quo, and neither the company nor the city will have gained or lost any rights in the streets. The agreement also provides that no ordinance or power of enacting ordinances is suspended or modified in any way by the city in becoming a party to the agreement.

With the day-to-day lines the city will take over 128 cars for its use. When the plan for joint service goes into effect the Detroit United Railway employees who would lose their positions will be given places on the municipal cars and will be supplied with uniforms of the municipal railway.

According to present plans the company and the city will operate cars alternately on Fort Street, Woodward Avenue, Trumbull, Fourteenth and Hamilton lines, and all other Detroit United Railway lines will continue operating as at present throughout the winter. The universal transfer will be put into effect as soon as the work of printing and distributing the transfers is completed.

Half Dozen Hurt in Interurban Crash

One man was killed and a half dozen others were injured when an interurban car of the Cincinnati & Dayton Traction Company crashed into an



CRUSHED VESTIBULE OF INTERURBAN CAR

other car, standing on the tracks near the carhouse south of Carrmonte, Dayton, Ohio.

The moving car was crowded with workmen on their way to the plant of the General Motors Company at Moraine City. The standing car had been run out on the main line a few minutes before the accident occurred in order to let another car leave the carhouse. According to witnesses the motorman

failed to see the car standing on the track until too late. When he observed that a crash was inevitable the motorman leaped through a window, receiving only minor injuries.

The coupling apparatus of the standing car was forced through the front end of the interurban. The impact hurled all persons in the moving car toward the front end.

Investigation is being made by the executives of the railway to determine whether the accident was caused by the slippery condition of the rails or the dense fog that hung over the countryside at the time. The conductor said the car was running 25 to 30 m.p.h. at the time of the accident.

News Notes

Last Respects Paid Henry J. Davies.—Funeral services for the late Henry J. Davies were held on Dec. 7. The honorary pallbearers were J. J. Stanley, president of the Cleveland Railway; R. A. Harmon, Thomas Schmidt, George Radcliffe, directors of the railway; C. Nesbitt Duffy, Detroit; Judge Fielder Sanders, City Street Railway Commissioner, Andrew Squire and Harry J. Crawford, legal counsel for the company.

Old Employees Back?—It is rumored that the newly elected Democratic administration in Albany, N. Y., will request the United Traction Company to discharge all imported conductors and motormen and to restore with full seniority rights all of its former employees who care to return to work. No threat is to be made of the curtailment of any existing right or privilege now enjoyed by the United Traction Company. It is simply to be invited in the spirit of helping boost Albany to give preference in employment to its old Albany employees.

Two Arbitrators Chosen.—C. H. Schoepf, chief engineer of the Cincinnati (Ohio) Traction Company, and Raymond Cleary of Springfield, Ill., representative of the International Brotherhood of Electrical Workers, have been chosen as arbitrators to settle the wage disagreement between the traction company and its electrical workers. The men have asked for an increase from 87½ cents an hour to \$1.05 to date from the expiration of their contract, Nov. 15, 1921. The Ohio State Industrial Commission has been asked to appoint the third arbitrator.

New Improvement in Prospect.—Members of the Saylor Park Business Men's Club have indorsed the plan now under consideration by interests controlling the Cincinnati, Lawrenceburg & Aurora Electric Street Railroad, whereby the traction line will be extended so as to bring the cars to the heart of Cincinnati, Ohio. The plan outlined by L. G. Van Ness, general manager of the traction company, is to extend the traction line from Anderson Ferry to the Dixie Terminal and to operate this extension by the West End Terminal Railway, which will be organized with a capital of \$1,000,000. The members of the club, who will be benefited by the improvement, have also voted to give their moral support to the plan.

Financial and Corporate

Montreal Tramways Betterments in 1921

Details of Work to Be Paid For From Proceeds of \$1,750,000 Bond Sale

Among the improvements made by the Montreal (Que.) Tramways during the year and for which the proceeds from the sale of \$1,750,000 bonds will be used, noted in last week's issue of this paper, is the new Cote substation, complete in every detail and in the heart of the city. In this substation there will ultimately be four G. E. rotary converters with a maximum capacity of 10,000 kw. Already two machines are installed and in operation. The other two are expected within the month. Including the land, building, high-tension underground conduits, tie lines and converters, the installation when completed will represent approximately \$750,000 investment, all of which will be charged to capital.

DETAILS OF WORK COMPLETED

Two car routes were also extended during the year. This work necessitated laying 2.62 miles of open single track at an investment of \$30,000 per mile. In addition to these 13.38 miles of tangent track were rehabilitated and twenty-one pieces of special track intersections having a total length of 9,800 track-ft. were relaid. Not all of this cost, however, could be charged to capital, for under the service-at-cost contract only the excess cost over that renewed can be capitalized. This remains true even if the replacement is in kind. However, on falling prices, where the replacement cost is less than that replaced, the difference must be credited to the renewal account so as to maintain at all times the integrity of the investment represented by the capital account of \$36,286,295.

The opening of the Cote substation by the Montreal (Que.) Tramways has allowed the company to increase materially the amount of hydro-electric power used. Power is purchased from three sources, the Montreal Public Service Company, the Shawinigan Falls Power Company and the Montreal Light, Heat & Power Company.

STEAM PLANTS SHUT DOWN

With substations tied in to all of these sources of supply, it has been possible to shut down the Williams Street steam power station and hold it in reserve for emergency purposes. Power in the past has cost on a weighted average basis, considering the amount of steam generated and hydro power used, about 1 cent per kilowatt-hour. It being possible to buy hydro power at 0.5 cent per kilowatt-hour, it is self-evident that power charges can be decreased materially in the future. The Hochelaga plant will be the only remaining steam generating station.

The Montreal Tramways Power Company, it is understood, has in contemplation a hydro-electric power development of some 200,000 hp. in the outskirts of Montreal. Until this plan is more fully developed and under way, however, there seems to be no like-

lihood of closing down the Hochelaga steam plant.

As for the 1922 plans of the tramways, extensive track rehabilitation is planned and there is a possibility of further track extensions, although nothing definite can be said at this time as to just how much work will be undertaken. In a large measure that amount of work to be done will depend upon business conditions, the amount of traffic and the price of materials.

Plans Being Prepared for Sale of Interurban Under Foreclosure

The way is gradually being cleared for the sale of the property of the Aurora, Elgin & Chicago Railroad, Aurora, Ill., under foreclosure. Before January 1 Judge Evans is expected to indicate the manner in which the sale will be conducted. Among the questions which still remain to be decided is whether the property will be sold as a whole or in separate parcels. There is no way now in which definitely to tell what the result of the sale will be, but it would appear more than likely that the stockholders will not realize anything on their investment in the company.

In proceedings brought recently in the United States District Court to establish the lien on various bond issues of the system Judge Geiger has ruled as follows:

1. The original mortgage, amounting to \$1,546,000, of the old Elgin, Aurora & Southern Traction Company, is a first lien on the Fox River division, including the Aurora and Elgin City lines, but is not a lien on the Batavia power house or the third-rail line into Chicago.
2. The \$2,455,000 of underlying first mortgage bonds of the Aurora, Elgin & Chicago Railroad are a first lien on the third-rail property and the Batavia power house, but are not a lien on the Fox River division.
3. The \$4,738,000 of Aurora, Elgin & Chicago general mortgage bonds are a lien on the third-rail line, the Batavia power house and the Fox River line subject to the above underlying issues.

Historical Treatise on Currency Inflation

"Currency Inflation and Public Debts" is the title of a historical treatise soon to be issued by the Equitable Trust Company, New York, for which company the volume was written by Edwin R. A. Seligman, Ph.D., LL.D., McVickar professor of political economy at Columbia University. An introduction has been written to the volume by Alvin W. Krech, president of the Equitable Trust Company, in which he discusses the three great problems of the growing burden of taxation, the sudden changes in price levels and the instability of currency. Dr. Seligman says that everywhere the massing of gigantic debts and the issue of irredeemable or inconvertible paper money operated to accentuate price increases and to add the woes of inflation to the other evils of war. Mr. Krech says that it must be admitted Dr. Seligman's paper is not conducive to optimism, but to his mind its austere and clear outlines convey a lesson which should not be missed.

Louisville Railway's Income for 1921

In the Dec. 3 issue of this paper the figures quoted in comparison for 1920 for the Louisville (Ky.) Railway should have referred to the estimated figures for the last quarter of 1921. The deficit mentioned in each case was after the dividend requirements had been deducted and was not an operating deficit. To remove all possible misunderstanding the full table is published.

Since the preparation of this statement the figures covering operations for the month of October are available, and, due to a reduction in operating expenses, the net income for the month is approximately \$24,000 more than the amount estimated. On Nov. 1, the company put into effect a new scale of wages, reducing existing rates approximately 5 cents an hour, and with this saving and other expected decreases in expenses, the company hopes to be able to wipe out a very large part of this shortage in individual requirements for this period, which was estimated at about \$105,856 as shown in the accompanying table.

	Nine Months Jan. 1 to Sept. 30, 1921	Three Months Oct. 1 to Dec. 31, 1921 (Estimated)	Total 1921
Operating Revenue of Louisville Railway:			
Transportation revenue.....	\$3,163,341	\$1,105,000	\$4,268,341
Other operating revenue.....	146,012	48,000	194,012
Total operating revenue.....	\$3,309,353	\$1,153,000	\$4,462,353
Operating expenses.....	2,516,933	862,500	3,379,433
Net operating revenue.....	\$792,420	\$290,500	\$1,082,920
Taxes.....	273,000	99,000	372,000
Operating income.....	\$519,420	\$191,500	\$710,920
Non-operating income (L. & I. R.R. Co., etc.).....	57,869	30,000	87,869
Gross income.....	\$577,289	\$221,500	\$798,789
Deductions from gross income:			
Interest on indebtedness, etc.....	479,906	158,752	638,659
Net income available for dividends.....	\$97,383	\$62,748	\$160,130
Dividend requirements:			
Preferred stock.....	\$131,250	\$43,750	\$175,000
Common stock.....	374,562	124,854	499,416
Total dividend requirements.....	\$505,812	\$168,604	\$674,416
Deficit.....	\$408,429	\$105,856	\$514,285

Note: In the event of an unfavorable decision by the courts in our fare case, the company will be obliged to make refund to holders of 7-cent ticket fare receipts. Based on ticket sales from March 24 to Oct. 24, 1921, it is estimated that such

liability up to Dec. 31, 1921, will be about \$335,000.00. If such refund were ordered, the earnings of the company would be decreased by this amount, and the deficit for 1921 would be increased to about \$850,000.

Return of Trolleys to "New Haven" Favored

Business Interests in Connecticut Want Electric Railways Returned to New Haven Railroad—United States Attorney General Seeks Advice from Local Interests

Harry W. Daugherty, Attorney General of the United States, holding personal hearings at Hartford, Conn., during the week ended Dec. 17 indicated that he looked with favor on the proposal to return the Connecticut Company and the Boston & Maine Railroad to the ownership of the New York, New Haven & Hartford Railroad. Only one voice, that of Howell Cheney, Manchester, was raised in opposition to the plan. Scores of business and financial men, however, presented arguments why the securities of these companies ought to revert to the "New Haven."

THE Attorney General had previously announced that his decision would rest largely on the question of competition. To that he added that the burden of proof would be on those claiming that the properties involved were in competition.

With a statement that he wanted to know why the "New Haven" subsidiaries, any more than those or other railroads of the company, should be kept under government control, Mr. Daugherty gave so much encouragement to the scores of business men at the hearing that Vice-President and General Counsel Buckland of the "New Haven" was called upon for a statement and referred to the fact that the "court" was apparently with him.

Most of the subsidiaries of the "New Haven" were divorced from it seven years ago when the directors were forced by the Wilson Administration to consent to a federal court decree based on a suit brought by the Department of Justice on the ground that the "New Haven" had built up a monopoly in violation of the Sherman Anti-Trust Act.

In commenting on the situation the Attorney General said:

I am familiar with this controversy. While I am unwilling to prejudice the situation, yet on the general proposition that transportation companies should be sustained, supported and extended, I have pronounced ideas. I am perfectly willing to listen to those who want to tell me that the Boston & Maine and the electric railway subsidiaries of the New Haven are not in competition, but the burden of proof will be on those who claim that they are competitive. I see no reason for discussing that point.

I want to know from you, gentlemen, if you know of any reason why the government should maintain the supervision of this particular property under federal trustees any more than it should have supervision over any of the other railroads of the country. The situation is a little peculiar in New England. If the government can do anything that will be helpful to these properties, I am here to see what the government can do, but I am, of course, interested primarily in determining the legal aspect.

"We feel that, under the past administration, we have been in jail long enough" declared E. Kent Hubbard, Middletown. "We want to be free. Is there anyone here who would object to the government releasing control of the New Haven properties?"

Howell Cheney, Manchester, spoke as a representative of Cheney Brothers, largest silk manufacturers in the world. He said there was a grave question as to the advisability of bolstering up the credit of the "New Haven" by returning the Connecticut to its control. He said the Connecticut Company under an efficient board of trustees had been kept in good condition and its integrity had been maintained, while electric railroads in other New England states had failed. This was due, he felt, to the

policy of developing the entire system as one unit so as to make the strong parts carry along the weak parts. Mr. Cheney viewed with grave apprehension whether the return of the Connecticut Company would "avert the impending disaster to the New Haven." He thought that to a considerable extent the present favorable condition of the Connecticut Company was attributable to the management by the trustees. Mr. Cheney said he was not prepared to answer concerning state supervision. So far, he said, it has not helped. It has hindered. He favored a continuance of the federal trusteeship until matters approached stability. He didn't see how the return of the Connecticut Company could save the "New Haven," for its securities could not be hypothecated now.

Benjamin J. Spock, until recently chief counsel for the Connecticut Company, asked permission to answer Mr. Cheney. The Connecticut Company, he said, was not a going concern, but hopelessly bankrupt and had nothing to lose by any disaster that might befall the "New Haven." He pointed out that the Connecticut Company owed the State nearly \$2,000,000 in back taxes and owed the New Haven nearly \$4,000,000 in rentals.

Edward Milligan, a director of the New Haven road, said "a false impression would have been created by Mr. Cheney's remarks" were it not for the statement of Mr. Spock. The fact was, he said, that the Connecticut Company has had a big brother which has helped it. It is true, he added, "that the Connecticut Company has had a board of trustees of five admirable men, of which Mr. Cheney's brother is one member. If Mr. Cheney's arguments concerning the Connecticut Company are sound, then we'd better put the railroad in the hands of trustees. Those who own properties are usually best to manage them."

Louis F. Butler, president of the Travelers' Insurance Company, Hartford, said that company owns about \$1,300,000 of the securities of the New Haven of various kinds, including 1,500 shares of stock. He said that the electric railways ought to be returned to the railroad and expressed the opinion that the New Haven itself was responsible for what advancement the Connecticut Company had made. In the first place, he said, if the electric railways were returned to the railroad, an unnecessary expense would be saved by the elimination of the salaries of the trustees. The chairman receives \$7,500 a year and the others \$6,000 each.

The hearing was continued at Boston, Mass., on Dec. 14.

The present federal trustees of the Connecticut Company are Judge Walter C. Noyes, New York; Morgan B. Brainard, Hartford, Conn.; Charles Cheney,

Manchester; Leonard M. Daggett, New Haven, and Charles G. Sanford, Bridgeport. They constituted themselves a board of directors and made Lucius S. Storrs, New Haven, president. The trustees were appointed by the court without any solicitation on their part, being practically drafted for the service.

Judge Noyes, chairman of the board, is quoted as having said recently that he would be glad to be relieved of the responsibility of acting as a trustee should the Department of Justice at Washington see fit to change its present policy.

The return of the stock and management of the Connecticut Company to the "New Haven" road, or the termination otherwise of the federal control of the trolley company, was recommended in a special report of the Public Utilities Commission submitted to the 1921 session of the Connecticut Legislature after an exhaustive study of the electric railway problem. It was advised that the Attorney-General of Connecticut be directed to request the Department of Justice to reopen and modify that portion of the judgment decreeing the assignment and transfer of the capital stock of the Connecticut Company to a board of five federal trustees, largely on the ground that it was a Connecticut corporation doing solely an intrastate business. No action was taken by the Legislature.

Reorganization Plan Advanced

Plans for the reorganization of the Vincennes (Ind.) Street Railway, recently sold by order of the federal court, have been placed before the Public Service Commission in a petition asking the commission's approval of the plans and for authority to issue securities. The petition was sent to the commission from St. Louis by Samuel A. Mitchell, counsel for the Mercantile Trust Company. Retention of the 5-cent fare in Vincennes was said by the company to be a reasonable, adequate and just provision under all the existing circumstances.

The old company has \$250,000 of bonds outstanding and \$350,000 of stock, all common. The new company proposes to issue \$200,000 in bonds and \$100,000 in stock, all common. All of the bonds and stock of the old company known as the Vincennes Traction Company excepting four shares of the latter would be paid to George H. Armstrong, who bought the railway, which the petition values at \$300,000. The new bonds would bear 6 per cent interest and would mature on Jan. 1, 1941, and be secured by mortgage on all of the property of the railway. This mortgage would be made in favor of the Mercantile Trust Company as trustee, and bond interest would be paid by the company from a fund created by \$1,000 monthly payments made by the railway. For retirement of the bonds it is proposed that the railway company also pay \$500 monthly to the trust company.

The property of the railway was purchased by George H. Armstrong, St. Louis, at a sale held by Charles Martindale, master in chancery, at the court house in Vincennes on Oct. 15. About two years ago the company was thrown into the hands of a receiver as the result of a suit in equity, an action of the Mercantile Trust Company. The company has been operated since that time by Edward C. Theobald as receiver.

Briefs on Depreciation Filed with I. C. C.

Two briefs were filed with the Interstate Commerce Commission on Nov. 22 upholding the right of the Washington Railway & Electric Company, Washington, D. C., to transfer jurisdiction over its depreciation charges from the District Public Utilities Commission to the Interstate Commerce Commission and one brief attacking such right.

The railway asks that the Interstate Commerce Commission take jurisdiction over the matter. It was supported in its stand by the American Electric Railway Association. The counter brief attacking the legality of the transfer was filed by Francis H. Stephens, corporation counsel for the District, and Conrad H. Syme, special counsel for the utilities commission.

The company's brief says that the jurisdiction of the Interstate Commerce Commission with respect to regulation of depreciation reserves and accounting of the Washington Railway & Electric Company extends to all property of the company used in rendering transportation service. It adds that the inevitable effect of depreciation rules promulgated by the local commission would be to make it impossible for the Washington Railway & Electric Company to continue to operate some of its lines which now run from points in Washington to points in Maryland.

All the time and money spent by the Public Utilities Commission in fixing valuations of street railways of the District will have been wasted if the Interstate Commerce Commission should take jurisdiction over the depreciation accounts of the companies, the brief filed by the Public Utilities Commission argued.

The brief of the American Electric Railway Association cites numerous instances and laws which are claimed to apply to the present case, and adds "more work remains to be done before correct rules, formulas and principles are evolved."

Filing of briefs followed a preliminary investigation which was held at Washington on Oct. 24 before Commissioner Eastman.

Opinion on Valuation Reversed

The Court of Appeals of the District of Columbia, recently reversed the opinion of the late Justice Gould, who upheld the valuation on the Potomac Electric Power Company by the Public Utilities Commission.

The majority opinion in objecting to the commission's valuation as of July 1, 1914, instead of Dec. 31, 1916, ruled that the present cost of reproduction is one of the necessary elements to be considered in fixing a fair and reasonable valuation.

The dissenting opinion of Chief Justice Smyth pointed out that the power company had failed to show that the commission's valuation was "inadequate, unreasonable or unlawful."

Unless this opinion should be reversed on appeal to the United States Supreme Court, the Potomac Electric Power Company will be entitled to the use of a fund of more than \$1,500,000 which has accumulated under an order of Justice Gould in 1917 requiring the company to impound 2 cents out of each 10-cent collection from the consumer.

This order was amended twice, so that the company recently has been required only to impound 1½ cents.

Interurban Seeks to Abandon Routes

The Interurban Railway & Terminal Company, Cincinnati, Ohio, has applied to the State Public Utilities Commission for permission to abandon two existing routes. One line extends from Cincinnati to New Richmond, 17 miles, via Coney Island, and the other to Lebanon, 33 miles, via Norwood. In the spring of 1918 the company abandoned its line to Bethel.

C. M. Leslie is operating the lines as receiver and J. F. Egolf is the superintendent. In his application the receiver sets forth the deficits in operating revenues as follows: 1918, \$84,253; 1919, \$13,365; 1920, \$20,344, and 1921, \$18,911. The case has been set for hearing on Jan. 31.

Members of the Silverton Welfare Association, which suburb is on the Lebanon route, say that if the line is abandoned they will again appeal to the Cincinnati (Ohio) Traction Company to extend its service to the community.



Deficit Lowered on Boston "L".—The receipts of the Boston (Mass.) Elevated Railway for the month of October exceeded expenses by \$133,178. This has reduced the deficit as of Nov. 1 to \$209,245.

Abilene Service Resumed.—Operation of the electric railway in Abilene, Tex., has been resumed by the American Public Service Company, under a new agreement with the city of Abilene. Five miles of track are included in the system.

Bonds Extended at Increased Interest.—The Department of Public Utilities of Massachusetts has authorized the Springfield Street Railway to extend from Jan. 1, 1922, for five years \$330,000 of 5 per cent gold bonds dated Jan. 1, 1922. The new interest rate will be 7 per cent.

Stockholders' Assents Received.—The Public Trustees of the Eastern Massachusetts Street Railway, Boston, Mass., have announced that assents to the readjustment plan recently suggested to the bondholders are coming in to them rapidly. Up to Nov. 26 a large majority of owners of the \$13,000,000 had sent in their acceptances. This readjustment plan was explained in detail in the ELECTRIC RAILWAY JOURNAL, issue of Nov. 12, page 880.

Tax Commission's Valuation Stands.—The Columbus Railway, Power & Light Company, Columbus, Ohio, is on the books of the state of Ohio for the sum of \$17,825,190, a valuation placed upon it this year by the Ohio Tax Commission, in spite of energetic efforts on the part of the company to have the figure decreased. This is an increase of \$727,660 over 1920, when the figure was \$17,097,530, and a boost of \$1,033,660 over 1919. As a final plan in its attempt to get the valuation

cut down the company filed suit in the Franklin County Common Pleas Court, but after a series of star chamber conferences with the commission it withdrew the suit.

Additional Stock Offered to North American Holders.—Stockholders of the North American Company, New York, N. Y., were notified on Dec. 5 of an offering at par of additional common stock in total amount of \$10,422,400 par value, or 70 per cent of the common stock now outstanding. The offering is made in installments of \$2,233,340, or 15 per cent, to be subscribed for on or before Jan. 3, 1922; \$2,977,850, or 20 per cent, on or before Dec. 30, 1922; \$2,977,850, or 20 per cent, on or before June 30, 1923, and \$2,233,350, or 15 per cent on or before Dec. 31, 1923. Any stockholder who takes up a portion of one installment will have an option on an equivalent proportion of the succeeding installment. The \$2,233,350 of stock offered for immediate subscription has been underwritten by Dillon, Read & Company, who will receive all option rights not availed of by the common stockholders or their transferees.

Segregation of Properties Proposed.—Holders of first mortgage 5 per cent gold bonds, due June 1, 1933, of the Springfield (Ill.) Consolidated Railway have received notice from A. D. Mackie, vice-president and general manager of the corporation, that the corporation's franchise in Springfield expires in 1928, or five years prior to the maturity of the bonds, and estimating that \$750,000 must be expended to put the property and equipment in condition to render adequate service. In readjustment of the situation the company recommends that the railway, gas and electric heating properties of the Springfield Consolidated Railway and Springfield Gas & Electric Company in Springfield, Ill., and the electric and heating properties which now serve De Kalb and Sycamore, Ill., be merged under the name of the Illinois Power Company. The old bondholders are asked to accept one of two offers for each \$1,000 of bonds; either (a) one \$1,000 new first mortgage 5 per cent gold bond of the Illinois Power Company, due June 1, 1933, and \$100 cash or (b) \$900 cash, plus the accrued interest on the present bond. The offer expires on Dec. 15, 1921, and the plan must be declared operative by Feb. 15, 1922.

\$10,000,000 Public Service Bonds Offered.—The Public Service Corporation of New Jersey, Newark, N. J., has sold an issue of \$10,000,000 of twenty-year 7-per cent bonds dated Dec. 1, 1921, to a syndicate composed of Drexel & Company, Bonbright & Company, Inc., and Clark, Dodge & Company, which were offered publicly on Dec. 9 at 98½ and accrued interest yielding 7.10 per cent. Proceeds, together with additions from cash now in the treasury, will be used to pay off \$12,500,000 notes maturing March 1, 1922. The new issue is a direct obligation of the corporation secured by \$14,000,000 general mortgage sinking fund 5s, due 1959, and \$5,000,000 capital stock of Public Service Electric Company, its subsidiary. Stock of the subsidiary for ten years has not paid less than 10 per cent annually. The net income of the Public Service Corporation for the year ended Oct. 31, 1921, was \$11,747,285, more than three times annual interest requirements on funded debt including present issue.

Traffic and Transportation

Troy Fights Fare Advance

Constitutionality of Governor Miller's Public Service Commissions Law Attacked in Albany Court

Corporation Counsel Thomas H. Guy of Troy, N. Y., on Dec. 6 obtained from Supreme Court Justice Harold J. Hinman an alternative order of prohibition restraining the Public Service Commission from further consideration of the United Traction Company's application for an 8-cent fare. Mr. Guy attacked especially the constitutionality of section 49 of the public service commissions law covering rates on the constitutional ground that the Legislature is without power to delegate a power to others that it does not itself possess.

The order acted as a temporary stay on hearings or determinations of the Public Service Commission and will so stand until determined.

Appearance was had and arguments heard before Justice Hinman at a special term on Dec. 10. Mr. Guy laid special emphasis upon court decisions to the effect that where a right has been conferred by the constitution such right is not subject to the police (regulatory) powers of the state; that section 18 of Article III of the New York State Constitution provides: "But no law shall authorize the construction or operation of a street railroad except upon the condition that the consent of the owners of one-half in value of the property bounded on, and the consent also of the local authorities having control of, that portion of the street or highway upon which it is proposed to construct or operate such railroad be first obtained."

IMPORTANT LEGAL POINT INVOLVED

Justice Hinman's ruling on the question is expected to go to the Court of Appeals for final decision, unless the higher court passes on it in other proceedings where it has been raised before the Troy case is heard in the Appellate Division, Third Department, and reaches the Court of Appeals. The constitutionality of the amendment recently has been unanimously sustained by the Appellate Division, First Department, and a further appeal in the case has been taken to the Court of Appeals. Different departments of the Appellate Division have been known to decide the same point of law differently.

So important is the legal question involved that Justice Hinman said he would request Justice W. O. Howard to take over his unfinished trial term at Troy so he could give the order his exclusive time.

The United Traction Company operated in Troy under franchises granted by the city to its predecessors in which conditions were accepted limiting the fare to 5 cents and the Common Council refused to waive them to permit the company to charge an 8-cent fare when the rate was raised to this sum in Albany, where there is no franchise limitation.

In his argument Mr. Guy called attention to the constitutional provision of 1876 which made necessary the

consent of local municipalities for construction or extension of street railroads and gave them the right of imposing conditions under which franchises may be exercised. The Troy franchises were granted under this authority, Mr. Guy said, and he argued that they became contracts which the Legislature could not impair or abrogate in the exercise of the police power of the state and that the amendment to the public service commissions law violated the constitution by so doing. He argued that the power of consent and the imposing of limitations having been exercised, there could be no construction of it that would make it ineffective.

The Court of Appeals in the Glens Falls case, the first of the rate cases, decided that the Legislature in conferring the power of regulation of railroad corporations and the rates to be charged by them, in 1907, to the Public Service Commission, gave with it authority to change or increase any rate that had been fixed by a state statute, but not where the rate was established or limited in the grant of a franchise by a municipality.

L. P. Jale, appearing for the commission, argued for the constitutionality of the amendment, saying that in giving the commission the power of changing all fare rates where necessary to prevent confiscation the Legislature was exercising a governmental function in the public interest. "It is as much to the public interest that rates may be increased as well as reduced," said Mr. Jale. "It is as important that the United Traction Company be allowed a profit on its investment that will enable it to give proper service in the city of Troy as that its citizens shall not be overcharged."

John T. MacLean, counsel for the United Traction Company, contended the limitation of fares contained in franchise grants by municipalities had been permitted by the State and were to continue in force until such time as it exercised its power to change them and that it had given such power to the Public Service Commission.

Should the courts decide the motion in favor of the petitioner, the entire force of the public service commissions law would be undermined and only a constitutional amendment could clothe it with the powers it is now assumed to possess.

Sacramento Given Choice in Fare Issue

Answering the appeal of the Pacific Gas & Electric Company, Sacramento, Cal., for increased fares, the State Railroad Commission recently presented three choices to the city.

The commission found justification for a 7-cent fare if all the present franchise requirements were lived up to. The present 6-cent rate could be retained if the city permitted certain rerouting, eliminated some early morning trips, and last, if the city should repeal the ordinance against "one-man" cars, a 5-cent fare would be authorized.

The city must decide by Feb. 1.

Commission States Limitations

California Body Defines Its Power to Stop the Operation of Auto Lines

If there is to be any fundamental change in the present policy of the State of California in regard to the use of the highway by motor transportation companies such change must come by direct legislative action or as a result of an initiative petition of voters, the State Railroad Commission declared on Nov. 25 in a letter discussing its relation to the subject. The letter was written to R. B. Swayne, San Francisco, in response to a suggestion by him that motor carriers should not be permitted to parallel railroad lines; further contending that this form of competition is unfair by reason of the fact that the motor companies make use of the highways built at public expense and that they do not pay taxes in the same proportion as the railroads.

The utility commission points out that it is acting within the limits of the power conferred upon it and in accordance with the legislative will, adding:

Manifestly, if there is to be any change of fundamental State policy toward automobile transportation companies such change must come through legislative action. Ultimately the decision rests with the electors, expressing their will through their legislative representatives or directly by means of the initiative.

The letter follows in part:

You will recall that motor transportation developed before there was any specific legislative enactment applicable to it. In that period it attained considerable proportions. The first control over this type of carrier resulted from a decision of the Supreme Court early in 1917, wherein it was held that motor operators acting as common carriers were included in the term transportation companies as used in the State constitution.

Following the decision of the Supreme Court the Legislature at the 1917 session took the first step toward placing auto stage and truck transportation under State legislation. At this session what is known as Chapter 213, Statutes of 1917, was enacted, requiring all parties proposing to enter the motor transportation business after such date first to secure a certificate of public convenience and necessity from the Railroad Commission and also permits from the governing bodies of all political subdivisions through which they proposed to operate routes. Those operating exclusively within incorporated city limits were exempted from the act.

At the 1919 session of the Legislature this act was amended, giving the Railroad Commission sole jurisdiction in the matter of certificates by eliminating the requirement of obtaining permits from local political subdivisions and broadening the act to include in addition to common carriers all persons or companies engaged in the business of transportation of persons or property for compensation over any public highway in this State between fixed termini or over a regular route.

In transportation matters the policy of the commission is not different from its policy relating to other forms of public utility service. It protects existing utilities that are adequately serving the territory and are prepared to meet the demands as they arise. You will note that from an examination of the decisions of the commission many applications to enter the automobile field are denied because existent steam or electric facilities or both are adequate.

In any discussion of the transportation problem the effect of the privately owned automobile upon established systems cannot be disregarded. At the present time there is in the State of California one privately owned car for every seven persons, and this means that the entire population of the State could be moved at one time by these cars alone. The same condition largely obtains in regard to automobile trucks, as nearly every farmer owns some kind of auto truck.

Interstate Fare Changed

Electric Line Ordered to Desist From Practicing Undue Prejudice Required by Franchise Grant

The Interstate Commerce Commission has just decided that a franchise contract entered into between the predecessor of the Pennsylvania-Ohio Power & Light Company, Youngstown, Ohio, and the village of Hubbard, Ohio, fixing rates between Youngstown and Hubbard is without effect where the rates so fixed result in unjust discrimination against interstate commerce. The Youngstown Company is ordered by the commission to increase these rates by putting into effect upon five days' notice a one-way cash fare of not less than 20 cents and a commutation rate of not less than \$5 for fifty-four rides. In the words of the commission the company is directed "to cease and desist from practicing the undue prejudice, undue preference and advantage found to exist in the relation of intrastate and interstate passenger fares."

I. C. C. ASSUMED JURISDICTION

The present rates between the two points, established by a franchise ordinance of the village of Hubbard, are: Cash fare, 12 cents; round-trip ticket, 20 cents; special tickets good for twenty-two rides, \$2, and fifty-four-ride commutation ticket, \$3.80. No other rates on the Youngstown & Sharon line are affected by the decision.

In the report of the commission on the case (No. 12,123) it is pointed out that the interurban railway is approximately 14.5 miles in length between Youngstown and Sharon and that the maximum distances from Youngstown and Sharon to Hubbard are 8.75 miles and 7.18 miles respectively. The existing rates of fare between Youngstown and Hubbard were established in a franchise ordinance passed by the village of Hubbard in 1901, the same rates being prescribed between Hubbard and Sharon, excepting that the cash fare was 13 cents as compared with 12 cents between Youngstown and Hubbard.

INCREASED FARE SCHEDULE IN EFFECT IN 1920

The report recites that effective on Feb. 15, 1920, by a tariff filed with the commission, the one-way fare between Hubbard and Sharon was increased to 20 cents, the price of fifty-four-ride commutation ticket to \$5 and the round-trip and special tickets between these points were cancelled. A tariff subsequently filed with the commission proposed to establish the same fares between Hubbard and Youngstown as those between Hubbard and Sharon. It was also proposed to increase the one-way fare between Sharon and Youngstown from 30 cents to 35 cents and the fifty-four-ride commutation ticket between these points from \$9 to \$10. This tariff became effective on interstate travel on Oct. 1, 1920. The report continues:

A tariff carrying the same fares was rejected by the Public Utilities Commission of Ohio in so far as it attempted an increase in the fares between Hubbard and Youngstown on the ground that it was without jurisdiction to allow the establishment of rates and charges in excess of those prescribed by the franchise contract. Refusals of the Public Utilities Commission of Ohio to allow increases of fares in similar cases have been sustained by the Supreme Court of Ohio. The petitioner shows that prior to filing this petition it and its predecessors exhausted all means through negotiation

with the village of Hubbard and otherwise to obtain relief from the franchise fares between Hubbard and Youngstown, but without avail.

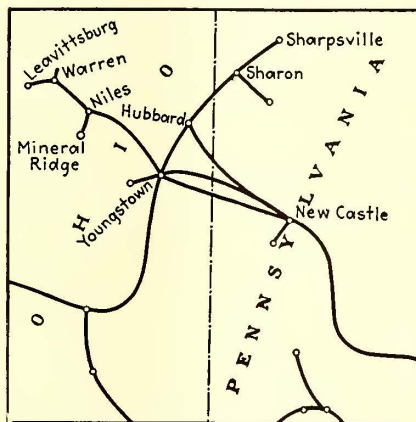
As to the contention of the village of Hubbard that the franchise was binding as to rates, the report of the commission says:

The answer to this is that if the maintenance of fares fixed by a franchise contract results in unjust discrimination against interstate commerce, it is within our power to remove it by prescribing other and different intrastate fares.

It is not shown that present interstate fares between Hubbard and Sharon or between Sharon and Youngstown are unreasonable. On the other hand, they appear to be relatively lower than fares maintained by other electric interurban railways in Ohio in the same general territory.

We are of opinion and find that the interstate passenger cash and fifty-four-ride commutation fares between Sharon and Hubbard, also the interstate passenger fares between Sharon and Youngstown, are just and reasonable fares for interstate transportation between these points; and that the maintenance of corresponding intrastate fares between Hubbard and Youngstown lower than the just and reasonable interstate fares between Sharon and Hubbard has resulted and will result in undue prejudice to persons traveling in interstate commerce over the petitioner's line in the State of Ohio and between points in the State of Ohio and Sharon, Pa.; in undue preference and advantage to persons traveling intrastate between points in Ohio; and in unjust discrimination against interstate commerce.

We further find that, whether the afore-



MAP SHOWING LOCATION OF HUBBARD AND YOUNGSTOWN

said passenger fares pertain to transportation in interstate commerce or to transportation in intrastate commerce, the transportation services are performed by the petitioner under substantially similar circumstances and conditions; and that said undue prejudice and preference and unjust discrimination can and should be removed by establishing intrastate passenger cash and fifty-four-ride commutation fares between Hubbard and Youngstown not less than the interstate passenger fares herein found reasonable between Hubbard and Sharon.

In 1917 the company asked the Council of the village of Hubbard for a relief from the fare provision of its franchise fixing the rates between Youngstown and Hubbard. It received no relief from the Council and then applied to the Public Utilities Commission of Ohio. The state commission decided that it had no authority to disturb an interurban rate fixed by franchise. A mandamus suit was next brought in the Supreme Court of Ohio to compel the Public Utilities Commission to assume jurisdiction. The Supreme Court decided this mandamus case against the contention of the railway. Finally in 1919 the company filed a petition with the Interstate Commerce Commission under the section of the transportation act of 1919, which gives carriers the right to complain of discrimination.

New Jersey and Michigan Fare Cases Considered by Supreme Court

Further arguments will have to be presented to the Supreme Court of the United States before it will rule in the case of the Board of Public Utility Commissioners of New Jersey vs. the Public Service Railway of that State. The court on Dec. 12 denied a motion to take up the case for argument. The case involves an injunction granted to the railway which restrained the Public Utility Commission from continuing in effect its order for a 7-cent base fare with a charge of 2 cents for each initial transfer. The motion was denied without prejudice and a further effort may be made to interest the Supreme Court.

The Supreme Court dismissed for want of jurisdiction the case brought against the Detroit United Railway by the townships of Avon, Brandon, Farmington, Oxford, Orion, Royal Oak, Troy and West Bloomfield and the villages of Birmingham, Farmington, Orion, Oxford and Rochester and the city of Pontiac. The court was not convinced that any federal question was involved in the controversy as to the right of the railway to charge rates of fare higher than those agreed upon in its franchises.

Interurban Bus Operators Must Pay

The City Commissioners of Dayton, Ohio, recently enacted a bus ordinance requiring all jitneys and buses transporting passengers in the city to pay a license fee, ranging from \$125 to \$200 per annum. The latter is for buses carrying fifteen or more passengers and became effective Oct. 1, 1921.

The question then came up as to interurban buses operating in and out of the city, in which one commissioner favored an amendment to exempt the interurban bus from paying the license fee. Several of the interurban managers voiced their sentiment in the matter, protesting the passage of the amendment on the ground that it would interfere with the traffic of the interurban lines, so the majority of the commission went on record as favoring voting down the amendment which will not exempt the interurban bus operators from paying a license fee. In the future bus operators transporting passengers in and out of the city must pay a special license fee.

People Make Request

The Hagerstown & Frederick Railway, Hagerstown, Md., has recently had a number of requests to have its loop cars run all one way, going out North Potomac Street, and returning to the square by way of Antietam Street. So insistent has this request, or almost a demand, become, that the management of the railway has decided that it will let the patrons of the cars settle it. It is proposed to have all users of the cars vote upon their preference. Ballots may be secured from the conductors of the cars.

Under the present system, cars leave the square every fifteen minutes and go in either direction around the loop, passing at the Fairground gates. Under the proposed change it would mean that the cars would leave the Public Square every seven and one-half minutes and go out North Potomac Street.

State and Interstate Fares Must Be Equal

By an order of the Interstate Commerce Commission dated Nov. 7, 1921, just published, the Steubenville, East Liverpool & Beaver Valley Traction Company, East Liverpool, Ohio, is granted the right to establish fares for intrastate service equal to the fares charged for interstate service.

The hearing was the result of a petition of the traction company, which operates an interurban line between Vanport, Pa., and Steubenville, Ohio, and intermediate points, and a local service between points within Ohio, and a branch line to Chester, W. Va. The lower interstate fares charged by the company had the effect of practically denying to the traction company the use of its interstate fares, for by declaring his destination as the state line and paying the required intrastate fare a passenger could stay on the car and pay the intrastate fare after crossing into the other state.

The company stated that because of the low intrastate fares it was unable to secure sufficient revenue to pay the cost of operating and maintaining its railway and taxes, that its bond interest was in default of payment for more than a year and that the line needed repairs which the company could not make.

The finding of the commission was that the interstate fares were just and reasonable and that:

Maintenance of intrastate fares between the same points lower than the just and reasonable interstate fares has resulted and will result in undue prejudice to persons traveling in interstate commerce over the traction company's lines in the state of Pennsylvania; in undue preference of and advantage to persons traveling intrastate between points in Ohio, and in unjust discrimination against interstate commerce, and that the undue prejudice and preference and unjust discrimination can and should be removed by establishing intrastate passenger fares not less than the interstate passenger fares.

The new rates will go into effect on Jan. 6, 1922, according to the order of the commission, No. 12,092.

Old Bus Controversy in Wheeling Renewed

When the application of the Ultimate Bus Company, which has been operating buses between Wheeling and Martins Ferry and Bellaire, Ohio, was read in Council in Wheeling recently the Wheeling Traction Company filed a protest. The railway contended that the City Council had no jurisdiction; that the applicant was not operating solely in the city of Wheeling, but in two states, and that the application could be referred only to the State Road Commission of West Virginia.

The railway contended further that the buses were not a necessity; that they were not able to carry all the traffic over this route; that the traction company had handled and could handle all the traffic; that if the buses continued to operate the traction company would have to stop operating; that the capital of the applicant was less than \$40,000; that the bus line could not assure Council what length of time it would continue to operate, and that already the application made by it to the State Road Commission of West Virginia had been turned down on the ground that it was not a public necessity.

A committee of three was appointed

to investigate the application. The controversy between the Wheeling Traction Company and the Ultimate Bus Company has been referred to previously in the ELECTRIC RAILWAY JOURNAL.

Railroad Taxation Provides Free Roads for Motor Transportation

Furnishing almost free a roadway for motor transportation lines out of money provided by taxation of the railroads was declared an injustice by C. A. Whitmore of the State Highway Commission of California in a speech made recently at Redlands, Cal. He said in part:

A peculiar paradox exists in California. We raise the money to meet highway bonds and interest from taxes on railroads and public utilities. With this money we build highways which are now used by automobile transportation lines in competition with the railroads. The competition reduces the revenues of the railroads and reduces the income which accrues to the state, with a part of which it builds highways. The state furnished almost free a roadway for one common carrier out of money provided by taxation on another. Obviously this situation cannot continue. Highways cannot be maintained under circumstances like these.

I hold no brief for the railroads but they deserve a fair deal. Auto trucks have taken over much of the short hauling. Sixty-two per cent of the freight between Bakersfield and Los Angeles is hauled over the Ridge road in motor trucks. Yet because this highway is showing in a few places the stress of this tremendous traffic, our critics are claiming improper construction.

Illinois Committee Advises Advertising

Newspaper advertising at this time particularly is being recommended to all of the utility managers on the mailing list of the Illinois Committee on Public Utility Information for two reasons, which the committee sets forth as follows: (1) Because of the industrial depression the advertising in local papers has fallen off tremendously, which means that utility advertising will get "a better play" and that the newspaper editor will extend himself in helping the utility formulate such advertising as will get results; (2) because public utility companies are in the same fix as other businesses. Gross sales have fallen off because of the depression, but overhead expense is going on. This combination makes difficult the earning of profits. The solution is to get after business, and one of the best means of doing this is through newspaper advertising. The committee makes the reservation that it does not advocate advertising campaigns, but comments that public utility advertising should be continuous; that it should have a well thought out, carefully planned day to day and week to week effort in which the most constructive ability available should be employed and the best advice obtained.

Ohio Cities Want Buses

Since the Northern Ohio Traction & Light Company, Akron, Ohio, decided to buy busses to be operated in the city of Akron, applications have come from both Canton and Massillon petitioning the company for bus service in those cities.

The November issue of *Northern Light*, the official publication of the company, says:

Should the operation of the buses purchased prove a success, and the necessity of the cities demand it, there is little doubt that lines will be established in both Canton and Massillon.

No Immediate Rate Reduction Is Probable

Reductions of public utility rates in Indiana to correspond with the marked decline in prices of other commodities cannot be expected at once by utility patrons because the rates were not advanced commensurately with the general increase of prices during the war period. This statement is contained in the annual report of the Indiana Public Service Commission, which has been completed by Frank B. Faris, examiner for the commission. The report says:

The past year has been one of rather marked decline in most commodity prices, and has been characterized by a business depression. It is impossible, however, for the Commission radically to reduce utility rates to correspond to the decrease in farm products, etc. During the past year there were only 538 formal cases filed as against 827 the year before, a reduction of 35 per cent.

There is, however, a sound distinction to be made between the cessation of demand for increased rates on the part of the utilities and a slashing of utility rates on the part of the Commission. Utility rates did not increase in proportion to, or contemporaneously with, the rapid increase of prices during the year 1919 and a part of 1920. Had utility rates been increased in direct proportion to, and simultaneously with, all commodity prices and labor costs, they could have been reduced in direct proportion to the decrease in these elements in utility expense.

In another part of the report, however, the commission expresses the hope that the economic readjustment will work for a reduction of rates commensurate with utility costs.

The commission says it is a source of satisfaction to observe that prices of materials and labor have started to decline, and that this ultimately will result in better public service, a more liberal policy of making public utility extensions and finally a reduction in rates commensurate with the reduction in cost of utility service.

One-Man Cars Indorsed in New Hampshire

The New Hampshire Public Service Commission has indorsed the one-man car. The question came before the commission in the form of petitions, asking the commission to forbid the use of these cars on the Concord Electric Railways. The finding of the commission contains the following statement:

We find that the petitioners have entirely failed to prove their allegations to the effect that the one-man cars are unsafe or that the service rendered by them is inadequate and unreasonable.

The commission's consent was given to the operation of these cars before they were installed. This was done in the interest of economy. It results in the saving of the wages of one man on each car operated, although the motorman is paid 5 cents an hour additional for collecting the fares. The public gets the direct benefit of this economy because the less the operating expenses the less the public is required to pay in fares. The crying need of street railway companies today is reduction in operating expenses. Rates have been increased to a point now that is burdensome. To increase revenue by a further raise in rates is impracticable. The tendency should be downward and not upward. The one-man car furnishes the best solution for this difficult problem thus far discovered. Its use is increasing and bids fair in a short time to become universal wherever it can be used to advantage and reasonably accommodate the public.

The objection of the public to these one-man cars, because of whim, prejudice or misapprehension of the true facts, does not justify us, nor would it be in the interest of the public itself to order the two-man cars restored. The petition is accordingly denied.

Wants Bus Company to Fulfill Contract

Mandamus proceedings have been brought by twenty residents of the Cowen Park district of Seattle, Wash., to compel the Sound Transit Company to operate its Roosevelt Heights Stage line. Hearing on this suit has been postponed for one week by Judge J. T. Ronald of the Superior Court. The city of Seattle is represented by first Assistant Corporation Counsel J. L. Kennedy, who is appearing as a "friend of the court," since the municipal corporation is not a party to the suit.

The company's certificate of necessity was issued under the 1921 state law, which provided that all auto transportation companies who were operating buses on or before Jan. 21 of the same year, must be permitted to continue that operation. Mr. Kennedy alleges that the company, as a corporation, was not operating buses at that time, and stated that the city could produce affidavits to prove this contention. The Sound Transit Company began operations when certificate was issued, but when the city secured an injunction preventing the buses from picking up passengers inside the city limits, the operation was discontinued, leaving the Cowen Park district without transportation of any kind.

In the meantime, the company has pending in the Thurston County Superior Court an application for a review of the action of the state department of public works in inserting in the company's certificate of necessity a clause placing the Roosevelt Heights stages under the jurisdiction of the city's jitney regulatory ordinance.

porary injunction on Nov. 29 restraining the Ottumwa Railway & Light Company from enforcing an increase in fares from 5 to 7 cents. The company had previously announced that beginning Dec. 1 the new rates would take effect.

Cancels Application.—The Southern Pacific Company, Portland, Ore., has notified the Public Service Commission that it has canceled its application for an increase of fares on the electric railway lines of West Linn. The company had asked for an increase from 5 to 8 cents. Applications for increased fares on the lines of Salem and Eugene, owned by the Southern Pacific Company, have not been withdrawn.

Commission Reiterates Opinion.—The New York Public Service Commission has denied the application of the New York State Railways for a reopening of the order dismissing the Company's application for a higher rate of fare than 6 cents in the city of Utica. The opinion of the commission in this case was reviewed at length in the *ELECTRIC RAILWAY JOURNAL*, issue of Sept. 24, page 535.

Bus Company Formed.—The Transit Company, Dover, Del., a corporation to provide motor transportation for both passengers and freight, has been organized among the residents of Central and Lower Delaware. The officers are: President, James H. Wheatley, Dover; vice-presidents, Dr. W. F. Hoey, Frederica, and Ralph E. Staats, Smyrna; secretary, Jefferson Cooper, Cheswold. The corporation hopes to have its lines in operation by 1922.

Conference on Fares in Pittsfield.—Lucius S. Storrs, vice-president of the Berkshire Street Railway, met the special transportation committee of the Chamber of Commerce of Pittsfield, Mass., recently and for the second time went over the fare problem in Pittsfield and Dalton. It is said that Mr. Storrs is disposed to try out a flat 10-cent fare in Pittsfield, with transfer privileges and zone elimination as recommended by the committee.

Wants to Manufacture Trackless Car.—Superintendent of Railways D. W. Henderson, of the Seattle (Wash.) Municipal Railway lines, has recommended to the City Council that the city manufacture a trackless trolley car for a trial on the municipal lines. Superintendent Henderson reported that manufacturers of trackless trolleys had informed him that the cost of sending a car for trial purposes in Seattle would be prohibitive.

New Terminal In Use.—More than 80,000 persons in a day of eighteen hours are now making use of the Dixie Terminal, Cincinnati, Ohio, in order to board cars of the South Covington & Cincinnati Street Railway for various points in Kentucky. The official turnstile figures for Saturday, Dec. 3, show 34,119 persons went through in one direction in a twelve-hour period and 40,013 in a full day's run. The story on the Dixie Terminal was told at length in the *ELECTRIC RAILWAY JOURNAL*, issue of Nov. 12, page 865.

Reduced Fares for All Schools.—A decision granting children attending private and convent schools the benefit of the reduced fare ordinance, enacted several months ago, was handed down by Judge Thomas H. Darby in the Hamilton County Common Pleas Court. The decision orders the Cincinnati

(Ohio) Traction Company to sell the 5-cent tickets to the convent school children between the prescribed ages of ten and eighteen years. Judge Darby in his decision said that the testimony tended to show that the courses of study in the convent schools are similar to those in the public schools and that the attendance at these is accepted by the school authorities in lieu of attendance at the public schools.

To Comply with Commission Finding.—In accordance with the finding of the Interstate Commerce Commission in the case of the Louisville & Northern Railway & Lighting Company, Louisville, Ky., the company will soon put in effect a new schedule of rates on commutation tickets between Louisville and New Albany and Louisville and Jeffersonville. This announcement was made by counsel for the company. The commission, as reported in the *ELECTRIC RAILWAY JOURNAL* for Dec. 10, 1921, held that the 10-cent passenger fare between Louisville and New Albany was unreasonable, as well as a 9-cent fare for commutation tickets.

City Appeals Recent Judgment.—The city of Muncie, Ind., through John McPhee, city attorney, has filed in Circuit Court a transcript for an appeal from a recent judgment in City Court which ruled Muncie's so-called anti-jitney ordinance invalid. The ordinance seeks to make it unlawful for motor buses to use the streets in which street cars operate. William A. McClellan, judge of the City Court, ruled the ordinance was class legislation and therefore unconstitutional. The ordinance was passed at the instance of the Indiana Union Traction Company, which asserted it was operating its local street car system at a loss, because of jitney bus competition.

State Control for Rhode Island Buses.—State control of jitneys and buses and the limitation of their operation to routes serving the public convenience or necessity will be asked at the approaching session of the Rhode Island General Assembly. Associated interests of the United Electric Railways, Providence, R. I., are behind the demand. The proposed bill will be based upon the Connecticut law, which became effective last April, and will take control from the cities and place it with the Public Utilities Commission. The Connecticut law requires that the applicant for a license must prove that the proposed service is required for the public convenience or necessity.

Are Trackless Cars Motor Buses?—The City Electric Company, Albuquerque, N. M., has stopped operation of trackless trolleys until a decision has been rendered by the district court. G. Roslington, president of the property, says that the action of the company in discontinuing the line was prompted by the recent ruling of Judge W. W. McClellan that a trackless car is an automobile and under the motor vehicle law must carry a state license tag. Mr. Roslington in arguing the matter before District Attorney declared that he should be permitted to operate the trackless cars without an auto license because of his franchise which, he said, allowed him to operate street cars "by electricity or any other improvement thereon." Mr. Mabry, contending for the State, said that a franchise the company might hold would not overrule every law which the state might make.

Transportation News Notes

Bus Line Proposed.—Minot Cab Company, Minot, N. D., is planning a passenger auto line service between Bismarck and Minot.

Two Million Motor Vehicles Produced.—In 1920 there were 2,205,197 motor vehicles produced in the United States. Of this number 1,883,158 were passenger cars and 322,039 were trucks.

Seeks Franchise.—The Citizens' Bus Company, Little Rock, Ark., has recently been organized and has asked the City Council for a franchise to operate buses in the western portion of the city.

Bus and Truck Service Arranged.—The Shore Transportation Company, Salisbury, Md., will establish a freight and passenger service by auto buses and trucks on the eastern shore of the highways of the State of Maryland.

Petition to Use Texas Road.—John H. Kirby, Houston, Tex., and his associates who are promoting an interurban line from Houston to Seabrook, a resort on the bay shore about 20 miles from Houston, have asked the City Council for permission to use the Municipal Belt Railway from Harrisburg to Pasadena as a portion of the track of the interurban.

Restrained from Advancing Fares.—Judge D. M. Anderson in the District Court of Ottumwa, Ia., granted a tem-

Personal Mention

Former Mayor in Control

Judge Holland, a Man of Proved Executive Ability, Heads Dallas Railway

Judge William M. Holland, former Mayor of Dallas, Tex., will assume the duties of president of the Dallas (Tex.) Railway on Jan. 1, 1922. He was elected by the directors at a meeting held in Dallas on Dec. 7.

Much gratification has been expressed by residents of Dallas over the election of a Dallas man to head the electric railway. Judge Holland succeeds the late Col. J. F. Strickland, who was also president of the Texas Electric Railway and a number of other electric companies. Under the reorganization that is now taking place, new presidents are being elected for each company.

Judge Holland is recognized throughout Texas as an attorney of marked ability. He was for four years judge of the Dallas County Court and served as Mayor of the city of Dallas for the four years from 1911 to 1915. His relations with the utilities of the city during his administration proved that he had an insight into the affairs of these companies that assured fair treatment both for them and for the people of the city.

Since leaving the Mayor's office he has been engaged in the practice of law in Dallas. He has not had experience as an executive of traction companies and his only relation with such companies, except as that of an attorney, was while he served as Mayor. Judge Holland was also elected a member of the board of directors. He previously had served on the directorate.

It is announced that Richard Meriwether will remain as vice-president and general manager of the company, and C. W. Hobson will remain as chairman of the board of directors.

Addressing the board of directors upon being notified of his election, Judge Holland signified his acceptance of the position in the following language.

It shall be my purpose as president of the Dallas Railway, co-operating with its directors, officers and employees, to give the people of Dallas the best service possible for the revenue received. I realize fully that those who are entrusted with the management of our street railway company have a difficult job.

I believe that with a policy of fairness and frankness and a spirit of toleration on both sides, the electric railway of Dallas can operate with a minimum of misunderstandings between it and the public and the public's representatives—the Mayor and Commissioners.

I do know that the growth and prosperity of every modern American city is dependent upon its street car system. Under the able leadership of Colonel Strickland, who was a man of extraordinary talents, great progress was made in our Dallas company. Much remains to be done. I hope to be instrumental in still bettering the service until Dallas shall have in fact a metropolitan electric railway system."

The board of directors made the following statement:

The directors of the Dallas Railway, in considering the selection of a president for the company, both as citizens of the city of Dallas and as directors of the company, concluded the successor to the late Colonel Strickland should be a local man. This conclusion was heartily indorsed by the non-resident stockholders, both feeling that by such determination would be extended and

increased, the good feeling between the public and the railway.

Judge Holland is well-known to all the citizens of Dallas. His record as Mayor for two terms thoroughly established his executive capacity as a man of unquestioned integrity, thoroughly honest in all things, and highly capable. Judge Holland becomes the president of this company without obligation to either the public or to the corporation, except to do justice to both parties, and we feel that both interests will be impartially guarded and conducted. His record as Mayor of this city bears the imprint of fairness and ability which will be of great service to the public and all interests concerned.

When Judge Holland takes up his duties on Jan. 1, 1922, he will find a huge accumulated deficit in earnings as authorized under the franchise granted the Strickland-Hobson interests in 1917. This franchise authorized a net return of 7 per cent on the fixed valuation



JUDGE WILLIAM M. HOLLAND

of the property. Statistics show that the earnings have been 5.32 per cent.

The company has operated under the franchise for fifty months and its net earnings up to Nov. 30, 1921, amounted to \$1,645,089, leaving a deficit in authorized earnings of \$599,475. Total earnings during this period amount to \$10,405,344, while operating costs have amounted to \$8,760,254. The total value of the company's property now is \$9,407,889, as fixed by the franchise for rate-making purposes.

Mr. Dalton Resigns as Manager of Idaho Company

H. E. Dalton, general manager of the Boise Valley Traction Company, Boise, Idaho, for several years, has resigned his position and F. L. Ring, traffic manager of the line since last May has been named as manager in his place.

The resignation of Mr. Dalton was placed in the hands of the directors some time ago, but the change was made but recently. Mr. Dalton has large private interests of his own which require his entire attention and it was for that reason he left the company.

Previous to his joining the operating staff of the Boise Valley Traction Company in 1908, Mr. Dalton was for several years superintendent of the Louisville & Southern Indiana Traction Company, New Albany, Ind.

His successor, Mr. Ring, has had considerable experience in electric rail-

way operations and is entirely familiar with the business he takes over as he has been next in charge to Mr. Dalton for some time.

Charles Day President of Former Ohio Electric Subsidiary

Charles Day, of the firm of Day & Zimmerman, Philadelphia, Pa., was elected president of the Indiana, Columbus & Eastern Traction Company, Cincinnati, Ohio, at a meeting of the directors held on Dec. 8. Mr. Day succeeds J. H. Sundmaker, of Cincinnati, as president and director. Mr. Sundmaker severed his connections with the company some time ago, opening an office in Cincinnati for special consulting work.

The Indiana, Columbus & Eastern Traction Company was a part of the Ohio Electric Railway system until the dissolution of the latter by the Federal Court some time ago on application of the receiver.

Mr. Plimpton Associate Editor on "Bus Transportation"

R. E. Plimpton has joined the staff of the ELECTRIC RAILWAY JOURNAL and its supplement, BUS TRANSPORTATION, on which he will be an associate editor. Mr. Plimpton will devote particular attention to the writing and preparation of articles treating more particularly with the technical and engineering phases of automotive equipment. On ELECTRIC RAILWAY JOURNAL Mr. Plimpton will handle the subject of auxiliary motor truck freight service to electric railways and also take charge of the statistical work, in which he has had much experience.

Mr. Plimpton has held positions in both editorial and advertising work on several papers. In becoming a member of the staff of ELECTRIC RAILWAY JOURNAL and BUS TRANSPORTATION he rejoins the McGraw-Hill Company. He was formerly with *Power*, from the editorial staff of which he resigned in 1915 to accept a position as publication manager for the Society of Automotive Engineers. While both advertising manager and editor of the society's publication he was responsible for changing it from a small monthly bulletin to the sizable paper that it is at present. In 1918 he joined the Motor Transport Corps and at the end of the war wrote a history of the engineering activities in motor transport as developed abroad by this country. More recently he has been associated with the advertising agencies of George H. Gibson, Newall-Emmett Company and the Wales Advertising Company.

W. R. Sebree has been chosen president of the Caldwell (Idaho) Traction Company, formerly in the hands of Receiver C. D. Purkhiser, who is now the general manager. W. A. Stone has been elected secretary.

E. C. Van Diest has again taken charge of the affairs of the Intermountain Railway, Light & Power Company Colorado Springs, Col., as vice-president and general manager, to replace E. J. Condon, Jr., who recently resigned.

John Mayhan, master mechanic Danville Street Railway & Light Company, Danville, Ill., has been appointed electrical superintendent of the Spokane & Eastern Railway & Power Company, Spokane, Wash. In this new position he will have charge of all rolling stock,

also the powerhouse, substations and overhead. This company operates several electric locomotives and handles freight. Mr. Mayhan was at one time construction engineer for this company. He will be succeeded at Danville by C. E. Walters, who has been serving as general foreman.

John S. Bleecker, formerly general manager of the New Orleans Railway & Light Company, New Orleans, La., and subsequently general manager of the Myles Salt Company, which is located near New Orleans, has resigned to go into business in New Orleans. Mr. Bleecker was for two years associated with the latter company, which owns and operates the largest salt mine in the world. Mr. Bleecker went to New Orleans in 1919 from Columbus, Ga., where he was general manager for Stone & Webster of the Columbus Electric Company and the Columbus Railroad Company.

H. O. Garman, chief engineer for the Indiana Public Service Commission, has resigned that position, effective Dec. 31. Mr. Garman became consulting engineer for the Indiana Railroad Commission when that department was created in 1907. Later, when the Indiana Railroad Commission became the Indiana Public Service Commission, he was retained as head of the engineering staff. He has served on the commission fourteen years and under five different Governors. He may be succeeded, temporarily at least, by Earl J. Carter, assistant to the chief engineer. He expects to give his entire time after Jan. 1 to private interests.

Obituary

John I. Loftis, inspector for the Georgia Railway & Power Company, Atlanta, Ga., died recently. Mr. Loftis had been connected with the company for thirty-two years.

Clarence E. Rood, sales manager of the Gould Coupler Company, New York, died on Dec. 11 after a brief illness. Most of his business connections had been in the railway field. At one time he was a member of the firm of Rudd & Brown, Buffalo, manufacturers of car wheels, and later operated his own malleable iron works in Lancaster, Pa. He has been connected with the Gould Coupler Company in the sales department for the past twelve or thirteen years. He had an exceptionally large circle of acquaintances in both the steam and electric railway field.

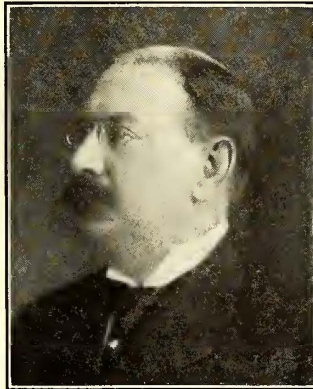
Hugh E. Crilly, an electric railway builder well-known because of the pioneer construction work he did in Eastern Pennsylvania, died in Allentown, Pa., on Dec. 13. He was the builder of the first electric railway in Allentown in 1891. During the next few years he constructed and financed himself numerous other undertakings, many of which he sold on completion. Among the larger lines built by him were interurbans around Lancaster, Pa., and a large section of the urban lines in Reading, Pa. Mr. Crilly was born in Ireland in 1852. He came to the United States in early manhood, settling in Lawrence, Mass., later going to Pennsylvania, where he became one of the best known business men in the state.

W. Caryl Ely Dead

Former Head of International Railway and of the American Association Stricken With Heart Failure

W. Caryl Ely, president of the American Electric Railway Association from 1904 to 1906 and for many years before and after those dates an active factor in the councils of the association, died suddenly on Dec. 14 of heart failure. Only the day previous Mr. Ely had lunched at the Engineers Club in New York among friends and associates who had known him for many years. News of his death will come to his many friends in the electric railway business in the United States and Canada as a great shock just as it did to his associates in Barron G. Collier, Inc., of which he had long been vice-president and in the affairs of which he had been active almost to his last hour.

When president of the American Electric Railway Association Mr. Ely was perhaps the principal factor in laying



W. CARYL ELY

the foundation for the association organization as it now stands, with its various activities as a real national body lending constant aid the year round to the companies within its membership. In association councils, as in everything else that he touched, Mr. Ely was a real leader who saw long before others did some of the problems which have recently caused the industry its greatest concern. He was one of the very early advocates of the policy of frankness with the public which has lately come to be accepted as not only advisable, but absolutely necessary to the future welfare of the industry.

Mr. Ely was a man of prodigious enterprise. He was perhaps best known among railway men as the former head of the International Railway, Buffalo, and for his work with the Collier organization, but these were only a small part of the activities to which Mr. Ely turned his attention from time to time. To his foresight, courage and determination very largely stands the achievement of the perfection of the noiseless typewriter. He early saw the need for a machine of this kind, and when others doubted he backed the enterprise with all the financial resources at his command. Always interested in public affairs, Mr. Ely took a very prominent part in furthering the plans for the Pan-American Exposition in Buffalo, and then gave of his time from

his many other interests to serve as a director and member of the executive committee of the exposition and as chairman of the transportation committee of the exposition. Another important work by him in the interest of the public was his service in the Legislature of New York, in which body he led the Democratic forces when Theodore Roosevelt was a member of that body. Mr. Ely and Mr. Roosevelt disagreed fundamentally on many political doctrines, but there grew up between them a mutual respect which developed into life-long friendship. Mr. Ely's charm of manner and unvariable courtesy and consideration for others endeared him to his many friends. At the same time his sound judgment and forensic ability made him a natural leader among men.

It is impossible to do more than sketch Mr. Ely's career and to refer briefly to the more important of his multifarious business activities. He was born in Middlefield, Otsego County, N. Y., on Feb. 15, 1856, and was educated in the common schools and at Cooperstown, N. Y., and Cornell University. He studied law and was admitted to the bar at Ithaca, N. Y., in 1882 and engaged in practice at East Worcester, N. Y. In 1885 he removed to Niagara Falls, N. Y. He afterward established the firm of Ely & Dudley and later that of Ely, Dudley & Cohn. In 1899 he gave up the practice of law to become president of the International Traction Company, Buffalo, N. Y., and the International Railway and removed from Niagara Falls to Buffalo. In 1891 he was nominated by his party for justice of the Supreme Court and from 1893 to 1896 he was treasurer of the Democratic State committee.

During Mr. Ely's residence at Niagara Falls, he was actively identified with numerous business enterprises. He was one of the organizers of the Niagara Falls Power Company and was identified with the Buffalo-Niagara Falls Electric Railway, being the first president of that company. He also had much to do with the formation of the Carter-Crume Company, Ltd., and William A. Rogers, Ltd. In the fall of 1898 and spring of 1899 Mr. Ely was active in forming a plan of combining into one system the electric railways in and between Buffalo, Niagara Falls, Tonawanda, Lockport and adjoining towns, and uniting them with the Niagara Falls Park & River Railway on the Canadian side by means of the steel arch bridge at Niagara Falls and the suspension bridge between Lewiston and Queenston. A short time later the International Traction Company and the International Railway were formed, of which companies Mr. Ely became president, serving in that capacity until March, 1905. For six years previous to 1910 Mr. Ely was president of the Ohio Valley Finance Company, and engaged in the construction and operation of electric railway and electric lighting properties in the Ohio valley between Pittsburg and Wheeling. Among the other companies in which he was interested there were the East Liverpool Traction & Light Company, the Ohio River Passenger Company, and the Steubenville & East Liverpool Railway & Light Company. He was a member of the Automobile Club of America and the Metropolitan, National Democratic, Transportation, Engineers and Cornell Clubs of New York, and also of the Cornelian Council.

Manufactures and the Markets

DISCUSSIONS OF MARKET AND TRADE CONDITIONS FOR THE
MANUFACTURER, SALESMAN AND PURCHASING AGENT

ROLLING STOCK PURCHASES

BUSINESS ANNOUNCEMENTS

Ten per Cent Cut on Northern White Cedar Poles

Pole producers have published a cut on Northern White cedar poles, effective Dec. 1, which makes a difference in delivered cost of from 5 to 10 per cent, according to size. The decrease was made in order to bring prices on the Northern poles into line with those on Western poles, which had been reduced during the early part of November: Prices on Northern white cedar poles, f.o.b. New York, are as follows: 40-ft., 8-in., \$16.50; 40-ft., 7-in., \$14.35; 35-ft., 8-in., \$14.10; 35-ft., 7-in., \$11.85; 30-ft., 7-in., \$8.55; 30-ft., 6-in., \$6.80; 25-ft., 7-in., \$6.80; 25-ft., 6-in., \$5.05. There has been an increase of 10 to 15 cents per pole on Western red cedars within the last few days to take care of changing through freight rates.

Demand for the Northern white cedar pole in the East is normally small. The main supply goes to the Middle West. Stocks are good and immediate deliveries can be made. Cross-arm quotations have been reduced several times in the last few months, and producers state that prices are now as low as possible. Some hope has been placed in a reduction of freight rates, but even if these were down to 1913 levels it would make only about 10 per cent difference in delivered prices.

Substantial Reduction in Line Hardware Prices

Reductions on line hardware of all sorts have been announced. New net prices quoted by a representative manufacturer include suspension-insulator fittings, pierce-forged steel pins for wood and steel arms, cross-arm saddles, centering washers, pole-top bracket, steel pins, clamp pins and clamps, wood-top pins, ridge irons, angle and standard cross-arm braces, through, machine, spacing and eye bolts, washers, strain plates, anchor of guyrods, pole steps, turnbuckles and tools. The average reduction is approximately 10 per cent and is the second since July 1, the other having been made Sept. 1.

Manufacturers state that the drop was put into effect in an effort to stimulate the market for line material and that some increase in demand has been noted. Many central stations are well stocked against seasonal requirements, as was the case with the utilities in eastern Massachusetts that made repairs out of stocks to lines damaged in last week's sleet storm there. A heavy call for this material recently came from the Pacific Northwest, where a blizzard had done considerable damage.

New Electric Railway in Spain

Early construction is proposed of an electric railway in Spain, to carry both passengers and freight and to operate between Corunna, Santiago, and Carballo—a distance of about 40 miles. Preliminary plans are now being worked out and a company with adequate capital will be organized to finance the construction, which will

include the building of five tunnels. At present the only means of passenger transportation between these points is by motor bus, requiring four hours for the journey; freight traffic is handled by motor trucks. Extensions are also planned for the local electric street railway system in Corunna.

Copper Prices Slightly Stronger

Domestic business in copper has remained the same as for the last few weeks, but with a decline in exchange foreign business has decreased considerably. Prices are getting firmer in the domestic trade. Domestic inquiry is from both wire-drawers and brass founders, with the buying by larger rather than smaller companies. While some inquiry and purchases are still for prompt shipments, most of the inquiry is for the first quarter, some being for April metal. Much of the present inquiry is from large consumers.

The highest price reported so far has been 14 cents for January and February deliveries. A little December copper is understood to have brought 13½ cents delivered, while a January sale in New York has been made at 13¼ cents.

December shipments of copper are expected to be quite large as much of the metal sold in September and October and some of the November business was for shipment before the end of the year. December sales, it is thought, will be doing well if total reaches that for September, when approximately 100,000,000 lb. was sold for foreign and domestic shipment.

Developments at Washington seem to account for the improvement in exchange and the increased buying of copper.

Rolling Stock

Indianapolis (Ind.) Street Railway should purchase twenty-five cars for city operation, according to a statement made to the board of directors by President R. I. Todd.

San Francisco, Cal.—The board of public works has requested the supervisors to adopt an ordinance authorizing the purchase of twenty cars for the municipal railway system. The need for these cars which are estimated to cost between \$300,000 and \$350,000, has been shown by City Engineer M. M. O'Shaughnessy.

Track and Roadway

Indianapolis (Ind.) Street Railway has been ordered by the Board of Public Works to lower car tracks on Kentucky Avenue at the intersection of Harding Street to conform to the street grade, and to pave between tracks at this point. The company was ordered also to pave between tracks on Oliver Avenue at the intersection of Harding Street. When these two streets are repaired they will present a thoroughfare on Kentucky Avenue from Washington Street to Troy Avenue.

Shore Line Electric Railway Norwich, Conn. is building a short section of track between the end of what was formerly known as the Groton & Stonington Street Railway and a connection with the tracks of The Connecticut Company in Main Street, New London. This new trackage represents about 1½ miles, including the bridge which, as soon as the Crystal Avenue bridge

in New London is completed next spring, will enable the receivers to operate from Westerly into New London. This construction is made in the name of The Groton & Stonington Traction Company, a newly chartered and incorporated company, wholly owned by the receivership estate.

Aichi Electric Railway, Nagoya, Japan, has been granted construction rights for an extension of its line to Okazaki. Negotiations for right of way have commenced, and it is expected that actual construction work will begin very shortly. This same company has applied for permission to construct two other lines, one of more than 10 miles branching from Ota on the present Tokoname line to Handa, and another 3 miles long from Tokoname to Handa via Narawa. Official sanction has been given for the construction of the railway between Oi and Tsukechi, in Gifu Prefecture. A company has been organized with a capital of 2,000,000 yen (\$997,000) to carry out the construction and operation of this line, and 50 per cent of its stock has been taken by the Daido Electric Power Company.

Power Houses, Shops and Buildings

Philadelphia, Pa.—Sealed proposals for electrical equipment for the substations on Cumberland Street, for the Frankford Elevated Railway will be received at the Director's office, Department of City Transit, until noon Dec. 20.

Chattanooga Railway & Light Company, Chattanooga, Tenn., on account of the incessant growth of demands for electric current in the Chattanooga territory, is planning to provide additional power equipment. For some months preparations for the installation of this equipment have gone forward and the work is now practically completed. In the substation at Carter Street the transforming equipment has been increased in capacity more than 50 per cent. The original equipment was placed in this station in 1914, and after a lapse of seven years it has proved to be inadequate.

Cumberland County Power & Light Company, Portland, Me. is again considering the construction of a steam power plant as an auxiliary to its hydraulic power supply. The proposition has been under discussion at various times during the past ten or fifteen years. Tentative plans call for the installation of two turbo-generators of 5,000 kw. capacity each. Steam will be generated in oil-fired boilers. The construction of the proposed station would result in the abandonment of the Forest Avenue plant, while the Plum Street plant would be utilized as the distributing center. It is estimated that the plant would cost about \$1,000,000.

Trade Notes

Seattle, (Wash.) Municipal Railways, through the Board of Public Works, recently awarded a contract to Allis-Chalmers Company for furnishing 116 air compressors, at a cost of \$30,207, f.o.b. Georgetown shops. This was the lowest of three bids submitted. Contract for furnishing 300 33-in. rolled steel wheels for the railway department was let to Cambria Steel Company, on a bid of \$10,575.

The L. Robinson Corporation 8-10 Bridge Street, New York, N. Y., is the name of an organization recently formed by L. Robinson, as electrical insulation specialists. The main laboratories of the company will also be located in New York, while the manufacturing facilities will be in Newark, N. J. and St. Louis, Mo. The corporation will have trade affiliations in Canada. L. Robinson, who has had long experience in the development and marketing of insulating materials, was in charge of the insulating department of the Standard Varnish Works, New York, Chicago and Toronto, for about fifteen years. Previous to entering the service of the Standard Varnish Works he held many positions in the operating field of electric railways in Canada, France and the United States. Associated with L. Robinson in his new company is W. D. Crumpton as vice-president and treasurer, who for many years was connected with the bureau of purchases of the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and afterward for fourteen years was purchasing agent and storekeeper of the British Westinghouse Electric & Manufacturing Company, Ltd., Manchester, England.