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*Of this issue of the Street Railway Journal, 8200 copies are printed. Total circulation for 1906 to date, 212,600 copies, an average of 8177 copies per week.*

### The New York Inter-Line Coupon Book

One of the most important subjects discussed at the Saratoga Convention of the New York State Street Railway Association this week was that relating to the adoption of an inter-line coupon book. The advantages of a book of this kind have already been demonstrated by the interchangeable mileage books of the steam railroad companies, and still more directly by the interchangeable coupon book employed by

the Central Electric Railway Association. There is no doubt that a plan of this kind stimulates riding, especially through travel, and saves a great deal of trouble to both the passenger and conductor in the way of making change, so that it is worth all it costs. The rate at which the book is sold, 240 coupons, or \$12 worth of travel, for \$10, is the same as that adopted by the Central Electric Railway Association, and the clauses covering the use and redemption of these coupons, proposed for adoption at the Saratoga Convention, are also very similar. We shall not comment in detail upon the various provisions of the interchangeable coupon book contract until the final form as adopted at Saratoga this week is available, but touch upon the plan this week as a step in the right direction.

### T-Rails in the Convention City

Sensational daily newspapers of Columbus, Ohio, are making an uproar because the Columbus, London & Springfield Railway wants the privilege of removing the grooved rail on its interurban loop and on the track leading out of the city and substituting high T-rail in its place. The company offers to use suitable paving for such rail and keep it in repair. Recently the company took a party of city officials to Dayton, Indianapolis, and several other places, and showed them the use of T-rails on paved streets, and part of the daily press is now endeavoring to show that the company's methods look like graft, and that the company wants to operate freight trains and high-speed passenger trains through the city. There is no question that the company's objection to grooved rail in this case is well founded. Its cars are unusually heavy, and are built for high speed, and to insure safety a wheel flange is used that is too large for the groove of the present rail. The danger of operating under such conditions is well known to every traction manager. The wheels bear only on the flange instead of on the tread, and in wet weather it is almost impossible to secure proper braking effect. In severe winter weather the conditions are even worse. The groove fills with ice and snow, derailments are liable, and it is almost impossible to handle the car properly or even safely. Two recent accidents in Cleveland, where cars crossing viaducts were derailed by small obstructions in the groove, and where great loss of life was prevented only by miracle, afford the best possible argument in favor of the contention of the company in Columbus, and elsewhere where the same conditions prevail. That the power consumption is greatly increased and wear on the flanges is excessive are of course among the objections which the company has against this track. Some years ago, at Springfield, Ohio, the former manager of the Columbus road, after several accidents caused by grooved rails, armed a force of men with cold chisels one night and chipped the groove from a mile of track through Springfield, and then defied the authorities to take action. The track remains in that condition to-day. It is to be hoped

that a similar measure will not be necessary in Columbus, although there would be strong provocation for it if the city insists upon the use of a piece of track which is dangerous to the public and needlessly expensive to the company. There are many miles of T-rails on city streets in large municipalities in the Central West, and where a street is properly paved and maintained there is no more, if as much, danger of annoyance to drivers of horse-drawn vehicles, as with the grooved or girder rail.

### Track Layouts at Summer Resorts

Electric railway systems at seashore and other summer resorts do not usually do a very profitable business on account of the shortness of the season, and for this reason this class of railways is looked upon with considerable disfavor by investors. Nevertheless, the conditions under which they operate have their compensating advantages. One is that people visit a resort of this kind to spend money, and higher fares can and ought to be charged for transportation compared with those in force on roads elsewhere. Again, the construction and equipment need not necessarily be of as high class, nor need the power station and distribution system be as efficient, owing to the short period for which they are called upon to transmit the maximum output. Again, it is nearly always possible to develop a considerable excursion business. Residents of one seashore resort can be encouraged to visit other resorts by a proper amount of advertising or something in the way of attractions, such as fireworks or park amusements. And if the line runs by the shore for any considerable distance, or through an attractive territory, considerable purely pleasure riding can be developed. Of course, owing to the short season, a system of this kind can best be worked in connection with a city property, because the power required during the summer months can be secured without any large permanent investment in power generating or translating apparatus, and because a satisfactory arrangement for the use of cars and labor can usually be planned.

The determination of the best track layout for a road of this kind is an interesting question. The geography of the city or town served is, of course, the principal factor in the problem, although the location of special attractions for the public is of almost equal importance in its bearing upon the best track location.

In most resorts located on the sea coast or on the shores of any considerable body of water, the visitor soon discovers that the town consists in the main of a narrow strip of streets and buildings skirting the shore. Width does not count for much in these communities. Rockaway Beach and Far Rockaway furnish an excellent illustration of attenuated topography, and the Jersey seashore resorts of Long Branch, Elberon and West End another. Perhaps the most typical layout of this sort is in Atlantic City, N. J.—a town whose fixed population is some 28,000, with a summer population of 200,000. In Atlantic City the main line of electric railway service traverses the town in a double-track route parallel to the ocean shore, and consequently parallel to the famous seven-mile Board Walk, but about a third of a mile distant. A few branch lines intersect the main line at right angles, but they are far between. Eight-cent exchange tickets are furnished between the main line and the spurs.

In all of the seashore resorts of the kind we have been

considering, the center of interest and activity is, of course, on the shore, and if the railway company wishes to secure any considerable amount of business it is self evident that the line must be near enough to the shore so that it is a convenience and saves time and distance as compared with walking. Of course in all of these resorts there is a permanent population in the village away from the shore, so that the best location for winter traffic is not necessarily the same as that for summer. What we wish to emphasize, however, is that persons wishing to travel from one point to another on the shore in one of our elongated summer resorts will not walk back to a trolley line a quarter or a half mile away if they can avoid it.

### Alcohol Motors

Since the passage of the free alcohol bill we have been pleased to see the favorable information regarding alcohol motors which has come to hand. Alcohol has so many advantages for use as fuel in internal combustion engines that its advent at a low price should work, not perhaps an industrial revolution, but very material changes in practice. Looking at the matter in its broader aspects, the greatest advantage of alcohol as a fuel lies in the fact that it makes very little draft on the world's capital account. It is practically an agricultural product instead of a rather meager by-product of the petroleum industry, the resources of which are in the nature of things limited. At the present range of prices abroad gasoline is ranked as slightly cheaper than alcohol, but with the rapidly increasing demand of internal-combustion engines this condition can not long be maintained. Gasoline has, it is true, the advantage in thermal value, but alcohol can be worked at enough higher economy to nearly offset the difference. During the hearings on the free alcohol bills, the evidence given by experts on engines was very definite upon this point. Prof. Elihu Thomson, who has studied internal-combustion engines for years, was very explicit in this regard, stating that, gallon for gallon, alcohol can develop substantially the same power as gasoline, less energy being rejected in the exhaust, and the conditions of combustion being more favorable. Mr. Goebels, of the Otto Gas Engine Company, went even further, stating as a result of experiment that with engines of the same cylinder capacity the alcohol engine would give about 20 per cent more power than the gasoline engine, and would give a thermal efficiency of 30 per cent.

Such a gain in output, even were it accompanied by no gain in efficiency, would be of considerable value in the automobile industry, leading to a lighter engine. In larger industrial work the gains are perhaps less material, but it seems certain that in alcohol we have a fuel of about the same present cost as gasoline and having advantages in safety, cleanliness, and freedom from offensive odors. Reports from abroad on locomotives driven by internal-combustion engines were referred to briefly in an editorial way last week, and indicate that for light work and industrial purposes very excellent results can be attained. Considering the interest now increasing in independent motor cars for casual railway purposes, the advent of alcohol motors is of particular importance. That it will greatly change the conditions of economy in such cases can hardly be expected, but it will at least keep them from becoming more unfavorable owing to