to the base of the rail. No bonds are used except in special work. Screw spikes are used at joints and nail spikes elsewhere. The standard paving is asphalt with no headers or stretchers against the rail.

The principal matter of electric railway interest in Memphis is, of course, the operation of the property under the service-at-cost plan inaugurated in 1921, but this subject will be treated in a separate article. Through co-operation with the city considerable reduction has been made in street congestion. Part of this was accomplished by rerouting and part by stricter enforcement of traffic ordinances. In consequence it has been possible to increase the scheduled speed of cars to 10.1 m.p.h., which is the basis on which all schedules are figured for the entire system. On Main Street, the principal business street, the scheduled speed has been increased from about 5 m.p.h. to more than 8 m.p.h. Under the new ordinance traffic checks are made frequently to determine the demand for transportation. Motormen and conductors are used for this purpose. Their figures are sent to the office and tabulated and charted.

AUGUSTA

Augusta has been undergoing a discontinuance of service, owing to jitney competition, which has been described in the news columns of this paper. For some time the Augusta railway, like some other railways in neighboring cities, has suffered from loss of traffic due to both private automobile and jitney. In the Southern States as a rule the country roads are poor, but for a short distance out from interurban centers they are generally in good condition and the absence of snow in winter encourages automobile driving for twelve months in the year. Residents in the Southern States are proverbially hospitable, and many a potential passenger on an electric railway is "given a lift" by a friend or even a stranger who is passing his way in a private automobile. On the other hand, the color line is drawn as strictly by jitneys as on the street cars or steam railroads. The result is that in most cities a jitney has to be either a "white" jitney or a "colored" jitney. This hampers their development to some extent. The company has tried various methods of increasing traffic. One is to post at important boarding points time cards showing when cars pass that place. As a fifteen-minute service is run on many of the lines, this practice has been helpful. A force of four inspectors is employed, mostly in the center of the city, to check the passing time of the cars against the scheduled time and the superintendent and assistant superintendents also do considerable checking.

The cash fare in Augusta is 10 cents, with token sold five for 40 cents. On the Augusta-Aiken division, 24 miles, there are eight 5-cent zones.

CHARLESTON

In Charleston there is a variety of fares. The cash fare is 7 cents, with a cash fare of 3 cents for children up to ten years of age. Tickets are sold four for 2 cents. There are two kinds of employees' tickets, on for people employed in the offices of the company, and these tickets are stamped with their names. There is also a form ticket for workmen used around the power plant and repair shop and on construction work. In addition, the company has a form ticket used on the through cars to North Charleston. This route has two zones, and besides the tickets already mentioned a special rate is available on this line of 20 cents for a round trip (instead of 21 1/2 cents) if the ticket is used between 5:40 and 8:30 a.m. and 4:20 and 6 p.m. This ticket is sold only in lot of six round-trip tickets for $1.20. Thirty per cent of the business of the company is done for cash and the rest in tickets. Two registers are employed, one for tickets and one for cash. The transfers for January 1922, were 7.36 per cent of the revenue passengers. A present paper is being used for all of the tickets, and one of the problems before the company now is whether to substitute metal tokens for paper and how to collect both cash fare and tickets. Each plan is considered to possess certain advantages.

There is considerable jitney competition with the Charleston railway, but at present this comes entirely from individuals. Some time ago a regular bus company was organized to operate twenty cars, each seating ten persons, but this company has gone out of business. The railway company has about thirty-three one-man cars and is converting some others to one-man operation. Like other of the older cities, Charleston suffers because those who laid out its main streets did not realize the demands for street space which the twentieth century would bring. King Street, Charleston's prin


"Chats with the Consolidated"

"The Effect of Automobiles on Street Car Travel"

Has it ever occurred to you that automobiles have contributed largely to the proposition in which the street railway at present finds itself? Well, it is a fact that they have. Not only have they directly and indirectly paid the expenses of the auto owners and members of their families, but thousands of fares are lost through auto owners "picking up" friends going to and from work in the mornings and afternoons. How often have you stood on a street corner waiting for a street car, perhaps with several others, when just before the street car arrived an auto drove up and the would-be street car riders were invited to ride "as far as 1 go"? Each passenger thus lost reduces our revenue, and has a direct bearing upon the service we render.

We appeal to the auto owners to assist us in rendering a more satisfactory service to the people of Charleston by discontinuing this practice and thereby direct these fares into the proper channel. A prosperous street railway rendering an essential service is of greater value to the community than are the few, cents to the individuals who are occasionally "picked up." Please allow those who would patronize the street cars.

Your Co-operation Is Requested and Will Be Appreciated

CHARLESTON CONSOLIDATED RAILWAY & LIGHTING COMPANY

Tonal business street, for example, is only about 35 ft. wide from curb to curb. The company is doing what it can to relieve this situation by speeding up cars, cutting out unnecessary stops and in other ways. The headway on most lines is ten minutes in winter and a shorter time in summer.

In Charleston the railway, electric lighting and gas services are all owned by the same company, and publicity is conducted through a regular department serving all three departments. Newspaper space and car folders are used.

A feature of the newspaper space is a series of friendly talks, called "Chats," carried in each of the three papers in Charleston on Tuesday, Thursday and Saturday. This series was begun July, 1921, and the space taken is usually one column wide and 8 in. deep, but this space is varied. Typical "Chats" on the railway system are reproduced on this page. Three prizes, all in car tickets, of $50, $30 and $20 were offered for the first, second and third prizes on May 4, 1921, "Electric Railway Day," for an essay on the advantages of electric railway cars as applied to Charleston.

"Chats with the Consolidated"

BACK TO NORMALCY—

Use Your Street Cars More

Saving is at the bottom of it. Our savings must repair the waste of war in addition to performing the usual job of developing our resources.

The man who rides the street car instead of using more expensive transportation is to be congratulated. He is helping the country by adding to the heaps and savings that will bring us back to normalcy.

He is helping himself by increasing his stake in the country through saving. He is helping the community to maintain a service that is vital to it.

The service he buys when he rides a street car is second to none in the country. The price he pays is reasonable. We repeat—he is to be congratulated.

"Patronize Your Street Cars"

CHARLESTON CONSOLIDATED RAILWAY & LIGHTING COMPANY

The paper which received first prize was a well prepared article which gives in detail the advantages to real estate owners, to school children, for social and recreational purposes, etc.

The car folder is entitled "Tri-Service," and the pages of a few recent issues are reproduced. Three departments are carried, named respectively "Smile-awhile," "Safety First" and "Happenings in Cardom.

CHARLESTON-ISCLE OF PALMS

The Charleston-Isle of Palms Traction Company's line is right across the bay from Charleston, with which it has connection by ferry owned by the company. The principal business is in summer, when all of the forty-two cars of the property are operated.

The usual method of operation is to send out a motor car with trailer followed by a motor car, as the line does not have loops at its terminals. On the arrival of the two-car train at the end of the line, the following motor car couples up to the trailer, which is uncoupled from the first motor car.

This line has the distinction of having raised fares during the last five years from 30 cents to $1.30 for the round trip.

Getting a British Franchise

The procedure of getting authority to build a street railroad of any kind in Great Britain is quite complicated. Many of the British tramway properties are municipal, but even a city cannot build a trolley line within its boundaries without getting a special bill through Parliament authorizing it to do so. If the undertaking is a private one, Parliament will not even consider the application unless the local authority, town or county council, approves. In London a somewhat different condition prevails. There the County Council is the tramway authority, but the local borough councils in London are the road authorities, and in most cases they possess power of veto and often exercise it.

Buses are on a different basis. If the local authorities wish to go into the bus business, they must get Parliamentary powers in which the routes are specified. If a private company wants to start a service, all it needs is to get the consent of the local authorities and licenses for the buses. If the proposed bus routes are likely to compete with the municipal tramway routes, the licenses probably will be refused. For interurban service where no such competition question arises, licenses apparently are secured for the asking. In London here also the condition is different. Neither the London County Council nor the metropolitan borough councils seem to have any say about buses. They are licensed by the Metropolitan police authorities, and their routes are regulated by them and by the Ministry of Transport.

One great reason for the great development of buses in London is that tramways are excluded from a considerable part of its area, including the downtown business and financial section known as "The City," and also from the fashionable West End.

After experimenting with double helical gears for the 2,500-hp. electric locomotives for the Gotthard section, the Swiss Federal Railways has adopted the Maag spur gearing with case-hardened and ground pinion teeth. The wheel teeth are of unhardened steel. For the State Railways the pinion will be made of case-hardened chrome-steel and the wheel rim of forged steel.