

# AUTOMOBILE SECTION

## LAMP BULBS OFTEN CAUSE OF EXTREME TROUBLE ON CARS

Lamp bulbs, though they constitute but a small part of the car, are nevertheless important, and those who have been unfortunate enough to be caught without a spare and no garage for miles will forever believe the lamp bulb as important as the storage battery.

There is no more exasperating moment than when you fuss around trying to put a bulb in a socket and the bulb won't fit, or you have a bulb with a single contact base and the socket calls for a double contact base. Or, perhaps, your car is fitted with a twelve volt system and you have a

six volt spare—blowout.

It should be the duty of every automobile owner to carry spare bulbs, and also know that he is carrying the right kind, for headlamps, tail light, dash, etc. He should also carry fuses of the right kind and made for the car. The bulbs and fuses should be kept in a special carrier, otherwise you won't have the bulbs long and the fuses cannot be found even by a process server.

Throwing bulbs around is not the best thing for them, even though the modern bulb can stand a little punishment. Door pockets and other receptacles should not be used for storing bulbs or fuses. Any supply store will show you a bulb carrier, sell you the proper bulbs and fuses, and make your lighting worries that much less.

You ought to know enough about your car so that you can buy bulbs intelligently. You must know the voltage of the system. Nearly all are six volts now, but some use twelve and some older cars eighteen or twenty-four volts. In some cars a twelve volt system is divided, and six volts used for lighting. You must know these things to know the type of bulbs to buy. The candle power also is important to know. When you go into a shop for bulbs be ready to tell the type, whether double or single contact; the voltage, and whether you want vacuum or nitrogen types. The latter is the more economical, giving more light for the same current, so it pays to spend a little more for them.

Headlamps are often so connected that when the switch is thrown to

"dim" the bulbs are in series owing to the use of a series connection. When in series connection if one lamp burns out the other will not burn. In parallel wiring two wires are used, and this is the connection employed when the lamps are burning brightly. You may find that when "dim" is used one lamp will burn brighter than the other, especially when the engine is stopped. This is due to differing resistance in the bulbs, and a change of bulb sometimes remedies the trouble.

If you put a six volt bulb in a twelve volt circuit you will burn out the bulb. It will flare up for a second and burn out. If you put a three volt bulb in a six volt circuit the same thing happens. If you put a twelve volt bulb in a six volt circuit the bulb burns dimly. All bulbs are marked 6-8, 12-6 or 3-4. This means that the lower figure is the voltage at which it is designed to operate, but it will stand the higher voltage without burning out.

In many cars the dash lamp and tail lamp are connected in series, that in one wire is used to connect the two lamps, the circuit being completed by a ground connection. In this case, or any case where there is a series connection, if one bulb burns out the other in series will not burn.

**Goodyear Company Devotes Department to Roads**

Despite the fact that the United States has 7,000,000 motor driven vehicles in operation—leading the world in this respect—motorists will be surprised to learn that but 12 per cent of roads in this country are surfaced. Out of an estimated total of 2,475,000 miles of public rural roads only about 292,125 are surfaced or improved.

Indiana shows the greatest percentage of improved highways, 42.5 per cent of its roads being surfaced, based on the last available figure of 1918.

That there is a great need for good roads can be deduced from the increased tendency for long distance hauling by motor truck, and particularly by the fact that 60,000 employees of the United States Postoffice Department travel 1,400,000 miles daily in delivering mail on rural routes.

With an estimated '20 production of 1,600,000 automobiles, the need for better highways is evident. That this fact is recognized by states and municipalities is shown by estimated appropriations of \$600,000,000 to be spent on hard-surfaced roads during the year.

In 1918 approximately 11,544 miles of roads were improved in this country and the enormous sum of \$3,974,000 was spent on maintenance. More than \$20,000,000 have been spent on the 2,220 miles of Lincoln Highway between the Hudson river and San Francisco in the last six years.

To stimulate the interest of both public and the states in the value of better roads, the Goodyear Tire & Rubber Company has created a new department to be devoted entirely to this work. It is in charge of C. M.

Wood, who is exceptionally well qualified for the work. This department will gather data on the cost of good roads, methods of taxation and other valuable information necessary before legislatures can frame and pass good roads legislation.

## FINDS CADILLAC TRAVEL BETTER THAN RAILROAD

"The most impressive object lesson I received in the West," says Lynn McNaughton, general sales manager of the Cadillac Motor Car Company, of Detroit, "was the difficulty of schedule travel by train, because all the trains are running late, and the ease of it by means of a Cadillac." Mr. McNaughton has just returned from a trip which took him to the Pacific Coast and back.

"The first time I encountered this difference was in making a run from Denver to Colorado Springs. The distance between the two cities is about seventy miles. It takes the trains three hours to cover the dis-

tance. Two hours is all the time the Cadillac requires.

"In California, in the course of one week, I traveled 1,500 miles in a Cadillac. One trip in particular was illuminating. We were starting from Oakland for Sacramento, some 300 miles away. Upon leaving Oakland at 9:45 in the morning, our driver said we would be in Sacramento by 9:30 that evening. We stopped in Fresno

for business and lunch, and had our dinner at Stockton. At 9:30 in the evening we were in Sacramento. Everywhere I traveled in the motor car we made our schedules in the same fashion. Nowhere did I encounter a railroad conductor who would say exactly how late his train was, nor how much time might be made up in arriving at a given point."



**ABUSE** and neglect will give any battery the "K. O." in short order, but it takes care and attention to keep it O. K. Charge must be kept up as near as possible to 1.280 mark—water must be put in to make up for loss by evaporation—connections must be kept tight and clean. If you want to keep your battery in the O. K. class *all the time* be sure to drive in every two weeks for inspection and test.

Electric Service Station  
717 Hohman St. Hammond, Phone 354.  
**INDIANA HARBOR TIRE & BATTERY CO.**  
137th and Grapevine. Phone 745B.  
**HENRY WAGNER & CO.**  
4337 Forsythe Ave., East Chicago.  
Phone 908.  
**RUBBERT BULLOCK**  
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## OLD AUTOS

If you have an old automobile—even though it is not in running condition—I will pay you cash for it.

Also I buy old tires, tubes and auto parts from any make car.

Tel. Hammond 2728 and our truck will call for anything in the auto line you may have.

## Maurice E. Ein

GENERAL AUTOMOBILE SALVAGE

Office and Yards Calumet and Conkey Ave., Hammond. Tel. 2728.

Several tires and inner tubes for sale cheap. Also auto parts that are as good as new. I may have what you want. See me to-day.

## Announcement!

We have secured the services of a high grade man who is, also getting paid for doing a strictly high class work in

## Washing—Polishing—Simonizing

Try a new service that is individual, thoroughly satisfactory and reasonable.

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Corner Calumet and Becker. Phone 386 Hammond.

## Firestone

**O**PERATORS of trucks can save money in tire costs by availing themselves of our expert service. Helping you keep your truck on the job is our object.

We have a complete stock of Firestone Tires, Tubes and accessories for trucks and passenger cars. Our men and machines assure you efficient tire service.

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We tackle your tire troubles any hour you phone us. If you are delayed on the road our service car and experts will come to your aid.

Our specialized knowledge of all tire troubles will save you time and money.

## Free Air

For your convenience there is a free air station at our curb. Here you'll find a gas and oil filling station also. Drive up and tell us what you want.

We believe in that kind of service that brings you most miles per dollar.

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**DEEP-ROCK**  
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Eclipse Dump Box Co., 228 Fayette st.  
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**EAST CHICAGO.**  
East Chicago Garage & Sales Co., 4737 Forsythe ave.  
East Chicago Auto Sales Co., 524 Chicago ave.  
Quality Tire Shop, 619 Chicago ave.  
L. Ballat, McCook and Chicago ave.  
Steve John, Alexander and Chicago ave.  
Simbalmo Bros., Kennedy and Chicago ave.  
**INDIANA HARBOR.**  
Chismar's Garage, Elm and 138th st.

**WHITING.**  
Demkovich & Son, 513 Fischrupp ave.  
**GARY.**  
Benson Bros., Eleventh and Cleveland ave.  
Benson Filling Station, Fifth ave. and Clark Road.  
Joseph Kish, 18th and Broadway.  
Great Street Garage, Grant st. and Eleventh ave.  
**HIGHLAND.**  
Harkema & Van Til, Highland.  
**HESSVILLE.**  
Clarence Ogden, Kennedy and Sumner, Hessville.  
**BLACK OAK.**  
Frank Lemhart, 203 W. Ridge Road.  
Frank E. Scheidt, Black Oak.

## Automobile Owners

We carry a full line of Tires, Tubes and Accessories. Also a full line of parts for Dodge, Oakland and Chevrolet cars, at both our Hammond and Indiana Harbor salesrooms.

## Bohling Auto Sales

Michigan and Grapevine, Indiana Harbor.  
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EAST SIDE GARAGE, 893 Calumet Ave., Hammond.  
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BUNNELL'S AUTO SALES CO., Hammond and East Chicago.  
JERRY O'NEIL, 671 Calumet Ave., Hammond.  
A. L. WALZ, 229 State St., Hammond.