

# In The Automobile World

## Electricity's Important Part In Operation of Automobile

Electricity in its many applications as found on the modern motor car, plays no small part in the successful and satisfactory operation of the motor car as a unit and the degree of comfort and luxury it is possible for the manufacturer to provide.

It is responsible for the spark that ignites the mixture of gas and air in the cylinder and makes the engine operate; it lights the car, starts the engine, and operates the horn. There are cars in which it heats the fuel, others in which it shifts the gear, and in some still newer designs, even replaces clutch and gear-set in the transmission of the power of the engine to the rear wheels.

The exact nature of electricity is not known, and no attempt will be made to give any explanation as to what it may be. You can, for convenience, think of electricity as being the name given to that something which produces certain results which we call electrical, such as lightning, that are formed when a trolley wheel breaks contact with the trolley wire, the sparks formed in stroking the cat's back, etc.

We are all familiar with the fact that if we step out of a window without any means of support, we are sure to fall to the ground or sidewalk. The reason of our falling is due to the attraction of the earth on our bodies, which is called gravity. The exact nature of this attraction is not known any more than the exact nature of electricity

is known. The action of gravity under certain conditions, however, is well known, and so is the action of electricity under certain definite conditions quite well known.

Since we know the action of electricity under definite conditions, it is possible to make practical use of it in operating the lamps, starting motors, etc., on the motor car, even though its exact nature is not known. For the sake of convenience in dealing with electricity we can think of it as a fluid such as water, but it must be remembered at all times that this similarity has to do with the action only and does not necessarily mean that the two are identical.

The electrical circuit is the fundamental basis of the many applications of electricity to the motor car, and, in order to understand thoroughly the principles, operation and maintenance of these applications, it is essential that we have a quite complete knowledge of the electrical circuit and its more common properties and characteristics.

The electrical circuit is the path in which the electricity flows, just as the water pipe is the path in which the water flows or a river bed is the path in which a river flows.

There is one great difference, however, between the electrical circuit and the ordinary circuit in which the water flows, and that is that the electrical circuit is always closed on itself, while the water circuit is not necessarily always closed.

## EXPORT DOCK AT OVERLAND PLANT.

One of Interesting Spots at Toledo for Visitors.

A visitor through the large Willys-Overland factory at Toledo, Ohio, would be hard put after a tour through the automobile plant to state which operation in the building or shipping of the Overland automobile he deemed most interesting.

Some atop and look in wonder at the gigantic toggle press that presses 2,000 side rails from cold steel every eight hours; others marvel at the methodical efficiency that prevails in the assembling building where the light, economical model 75-B is put together and tested. But there are also many who stop for a long time on the export shipping dock and watch the crew of carpenters encase Overland and Willys-Knight cars for foreign shipment.

Here is a box labelled "Sydney, Australia." Soon the car inside of it will be ploughing through the sand and bush of the Antipodes. Here is a car whose destination is Calcutta, or, perhaps, Karachi or Bombay—all in far-away India, Yokohama in Japan, Aden in Arabia, Durban in South America, Shanghai in China, Rio Janeiro in Brazil, Buenos Aires in Argentine, Santiago or Valparaiso in Brazil—it is from this dock that dozens of car loads of Overland and Willys-Knight cars are shipped to these and many other points each month.

After a car that is marked for export shipment has been assembled it is driven to the export dock, where it is placed on stout planking which will soon be the bottom of a packing box.

The gasoline tank is drained, the wheels are taken off, steering column and wheel dismounted and the top taken down. All these parts are firmly lashed to the seats of the car or the sides of the box. The latter are lined with water-proof paper to prevent the salt air of the ocean from rusting the metal parts of the car.

In a surprisingly short time the car and its contents are made snug for their long journey, a piece of canvas is laid over the car, the wooden cover is nailed down and the destination is stencilled on.

## RECORD IN PHILIPPINE ISLANDS.

According to word received from Manila in the Philippine Islands, the new series model 75B is there accomplishing feats fully as notable as those being scored at home. In a recent test under the observation committee of the Philippine Islands from Manila to Las Banos and return, a 75B averaged 22 miles per gallon under very adverse road conditions. In spite of the poor highways the little car was pushed to 45 and 50 miles an hour at times. At the end of the trial it seemed none the worse for the run.

## OVERLAND RUNS 117,000 MILES.

Ed. St. Pierre, taxi owner in Wolcott, Ind., owns a model 50T Overland which he has driven 117,000 miles in lively work of all kinds. In writing to the Overland factory recently of its performance he says that his repairs for the entire period have not aggregated \$100. "And it is still in fine condition," he says. "I have not missed a single day on account of the car."

A Pennsylvanian has invented a process for opening coconuts by freezing them solid, then subjecting them to temperatures high enough to expand them quickly and crack their shells.

Pictures are projected from the back through a new translucent motion-picture screen. The surface of which is composed of prisms to prevent distortion to persons seated to one side of the screen.

## MADE GOOD RECORD.

Cincinnati Automobile Club Tests Overland Six.

W. T. Foley, assistant secretary of the Cincinnati Automobile Club, recently conducted a gasoline test of a model 86 Overland. A car was taken from the stock of the Citizens' Motor Car Company. The main tank was disconnected from the carburetor and a small tank, which held one gallon of gasoline was connected. The carburetor was then set so that the engine ran freely both on low and high speed. The speedometer reading then was taken and the car was run over a prescribed course, until it stopped for lack of fuel. The speedometer reading was then taken again, and it was found that the car had travelled 17.83 miles on one gallon of gasoline. This gasoline was not high-proof, but an ordinary grade, of which the hydrometer test showed a reading of 59 degrees. This feat was considered very remarkable for a car of the size of the Overland model 86, especially as the car had just been taken out of stock and had never been run before. The switch was not thrown nor the clutch disengaged during the trip. In other words, the car was not coasted at all.

A cork extractor patented in England comprises an awl-like stem with a loose cross bar, which is passed through a cork with the stem, turned against the cork as it is withdrawn.

Five more cities in Hungary are to be supplied with natural gas by a syndicate to which a concession has been granted by the government, which maintains a monopoly of the gas deposits.

## GOOD BALANCE FACTOR IN MOTOR CAR DESIGN.

It Makes Studebakers Hold To Road—Almost Perfect Balance.

In reviewing the progress that has been made in automobile design, the results secured by engineers in the direction of proper balance-deserve a big share of attention. By reason of long study and experimenting, Studebaker engineers have developed Studebaker cars to the point where the present day models show almost perfect balance. Specifically, there is only 50 pounds difference in the weight that is carried by the front and rear wheels. Considering the weight of the car, that is almost a negligible amount.

The reason why good balance was sought for and secured was to give the car safety on the open road at high speeds by preventing it from bouncing and swaying about. Then, too, it was appreciated that even balance of the front and rear construction would prevent uneven wear on the tires, and would reduce tire expense.

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## Motor Boat and Automobile Supplies

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of the hammer is proof that the crippled auto sent here for mending is now in first class condition. For thoroughness is a religion with us. We do work as quickly as possible, but never at the expense of thoroughness. That's why car owners who know always send their machines here when they need attention.



Porritt Garage Co., Ltd.  
Phone 454 Wellington Street

For detecting leaks in underground water pipes an instrument has been invented consisting chiefly of a rod to be thrust in the ground to pick up the sound and a telephone receiver with which it can be heard.

## Hints to Motorists.

Every other sweater one sees is of Shetland wool and is shrimp pink in color. The reason is that it launders splendidly, does not fade and is just the right weight for summer wear. Of course, the same sweater is to be had in popular stripe combinations and in the non-fadeable yellow.

Among the smart new coats is one in soft grey pique de peche that is worthy of description. It is in a full raglan model, with corded drop sleeves which are finished with deep violet cloth cuffs. The collar is a convertible revers model of the violet cloth, and when it is turned up it buttons with white pearl buttons. When it is down it lays flat on the shoulders. The coat is lined with soft violet silk and is buttoned with large pearl buttons.

Flannel robes made of two-faced materials—drab or tan on one side and plaid on the other—are good for touring use. On the plaid side the plain-colored material is turned and stitched to form a trimming. These robes are lighter and less bulky than the English and Irish robes, and are quite as warm.

Foot rest cases covered to match the upholstery of the car are in use again for the touring season. One is fitted with a man's toilet articles in ebony and a boot-blackening outfit, with black, tan and white dressings. In the cover are two leather pouches. One holds a looking glass and the other a manicure set.

Chauffeurs' suits in mohair may be had in gray, brown and navy blue. The suits are made after the usual models, but some, instead of having the military jacket collar, have no collar above the well-fitted

neck, which is finished with stitching. This allows for a narrow turnover collar and a white square bow tie, which is cool for summer.

## LUBRICATING LESSONS LEARNED IN BIG RACES.

Tests Develop Weaknesses in Motor Construction, Expert Claims.


Lessons derived from automobile racing are bound to prove valuable to manufacturers who heed them, according to J. Edward Schipper, who writes on the subject in The Automobile.

Oiling problems are so pronounced in racing cars that it is very doubtful whether the questions of oiling the ordinary passenger car and the racing car are at all parallel. On the other hand, where the touring motor is operated at high speeds the question of proper oil feed is quite important.

Of late there has been quite a reverse in racing motors as well as in some of the touring cars as regards cylinder lubrication. The question up to a short time ago was how to get enough oil to the cylinder. It has now become how not to get too much.

With aluminum pistons the problem of how to keep the oil supply to the cylinder walls properly regulated is even more complex. The difficulty lies in the number of conditions under which the car is handled, and the problem of securing proper oil at all speeds and under different load conditions becomes very much like that of carburetion.

A variation in feed is really required to handle the work properly on touring cars. On a racing car the difficulty is so pronounced that a car oiled correctly at Sheepshead Bay will suffer from too much oil at Indianapolis.



# Service

—that increases operating efficiency

From the beginning Studebaker has recognized that Service in connection with the purchase of a motor car is just as vital to its operating efficiency as the high grade materials and workmanship that go into its construction.

In fact Studebaker does not consider its responsibility fully discharged until every detail of care and operation is thoroughly understood by the owner.

To this end there has been established what is known as Studebaker DEFINITE Service. This consists of a thorough inspection of every Studebaker car, at regular intervals, for a period of six months after purchase, without a dollar of cost. Not only does this guard against motor troubles which prevail in any car, but it educates the owner to the proper care of his car so that he can get 100% pleasure and usefulness from it every day in the year.

You are invited to come in and see how Studebaker DEFINITE Service is operated to the benefit of the user.

**W. P. PETERS, Distributor;**  
117 Brock Street.

# Overland

New Series  
Model 75 B

**\$890**  
Roadster \$870  
F.O.B. TORONTO.

## 31½ Horsepower

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In twenty-four hours and from every section of the Dominion we had received more orders than we could fill in several weeks.

So we immediately increased the production—filled the orders and notified our dealers not to push the model too hard as we were going night and day to catch up with orders.

Before the end of the first week orders were pouring in so rapidly that we decided to again increase the production so that there would be no disappointments.

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Now we are shipping 500 of the new cars every single day and are fairly breaking our backs to keep pace with the great demand that now looks as if it never would cease.

We anticipated a great success, but we did not look for such a daily avalanche of definite shipping orders.


Such is public opinion—the strongest force, the greatest asset, in the world.

Never before has any automobile enjoyed such an unparalleled victory.

Step in and see this extraordinary car yourself today.

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