

IN THE AUTOMOBILE WORLD



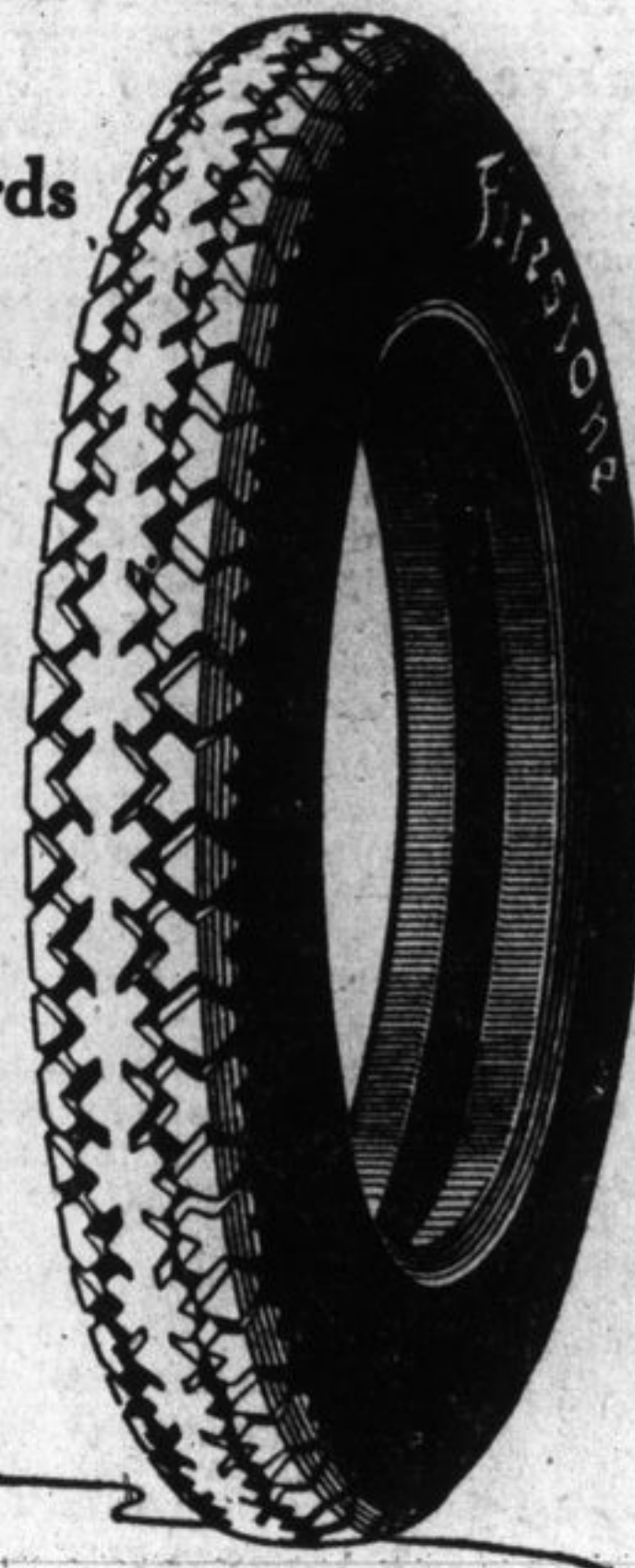
Why it Pays to Insist Upon Gum-Dipped Cords

Tires look much alike before they go on your car. But tires do not wear alike. It is the things you cannot see—the hidden values—that determine tire life and ultimate cost.

You can make sure of obtaining a tire that wears better and so costs the least in the end by insisting upon Gum-Dipped Cords. Gum-dipping insulates each cord with pure, live rubber—prevents wear by keeping the cords from rubbing against one another.

Firestone Cords are gum-dipped. It is this Firestone process that multiplies mileage and noticeably reduces tire costs in a single season. Firestone Tubes are steam-welded—therefore leak-proof. This keeps tires properly inflated and better mileage results. Ask your dealer.

FIRESTONE TIRE & RUBBER COMPANY OF CANADA, Limited
Hamilton, Ontario.



Firestone

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at the Lowest Cost per Mile

THE automobile as a productive factor in Canadian business has proved of greater value than any other single invention. By shortening distances and time, the automobile brings buyer and seller together more quickly, conveniently and economically than any other means of transportation.

The automobile has increased man's earning power many times over. And Chevrolet, the lowest-priced quality car in the world provides this efficient transportation at a lower price per mile than does any other car built.

Continuous daily service under difficult conditions only proves the complete dependability and stamina of this practical car.

In appearance Chevrolet does credit to any business house or professional or private person. In appointments and equipment it is as complete as the most discriminating owner could wish.

Chevrolet is an investment that will pay good dividends. Investigate.

Ask About The G.M.A.C. Deferred Payment Plan
6-30



THE MONARCH BATTERY

Has proven its high qualities. For that reason the leading dealers recognize its superiority, and now stock them and recommend them to Automobile Owners and Radio Fans.

Ask for the Monarch
MADE IN KINGSTON.

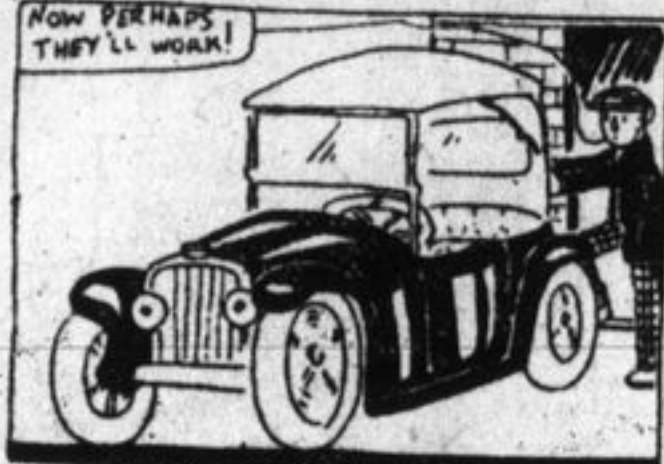
The Monarch Battery Co. Limited
275 ONTARIO STREET, KINGSTON, ONT.
PHONES 536-537.

HINTS FOR THE MOTORIST

by ALBERT L. CLOUGH
Editor Motor Service Bureau Review of Reviews
MOTOR AIR AND OIL

NEARLY A YEAR AGO attention was called to the initial appearance of the air-cleaner as applied to American passenger cars and since then the introduction of this device has made rapid strides, so that it is already regular equipment on a number of makes of cars. Moreover, air-cleaners of several kinds are available as additional equipment for cars of all makes that are already in service. To motorists who drive almost entirely over improved highways, the surfaces of which are oiled or otherwise bound and therefore practically dustless, the need for the air-cleaner may not be vividly apparent, but to those who frequent loose surfaced sand and clay roads—and such roads still constitute a vast proportion of the whole, the country over—their argument as to the value of clearing the carburetor air of dust is needed. Hand in hand with the movement to prevent, so far as possible, the entrance of abrasive material into the engine is that designed to remove from the engine oil such injurious foreign particles as may find their lodgement in it. Devices for the continuous filtration of the oil in the engine base, for the removal of the fine particles of metal, carbon and sand which the ordinary pump screen cannot exclude and to trap any water present are already being marketed.

GEAR MESHING DIFFICULTY



H. C. H. asks: Why is it that I am sometimes unable to shift the gears of my car into reverse or low? The other morning, I found that I could not engage low or reverse, but could mesh second and high speeds and it was only after I had pushed the car out in the yard and disengaged the clutch several times, that I could get it into reverse.

Answer: As the clutch of your car is of the disc type and operates in the general oil supply of the power plant, quite likely the oil gets thick enough to prevent full clutch disengagement and thus causes the clutch shaft and countershaft gears to spin, after you have pushed the clutch pedal.

This would cause the gears to clash, so that you could not mesh them. Possibly the clutch pedal strikes the floor boards so that the discs are not separated as fully as they should be. Until you correct this trouble, why don't you engage low gear or reverse, before you start the car and hold out the clutch until the engine is running. You will then be able to move the car and we think the oil will soon thicken up so that you can shift freely.

TO REBore OR REPLACE CYLINDERS

G. A. writes: The cylinders of my engine got "burned" slightly, shortly ago, and since that time it has hardly any compression and no pep, besides using a great deal of oil and gas. I have had overize pistons and new rings fitted with the idea that they

would smooth up the cylinder bore, but they seem not to do so. How do you advise me to have the block rebored or to get a new block?

Answer: We believe that you can have your old block reconditioned and rebored cheaper than you can buy a new block and a new set of pistons and rings and think the results thus obtained will be just as satisfactory. There is never any reason to expect that new pistons and rings will smooth up scored cylinder walls. The mutual friction of rings on cylinder walls will lap out minute irregularities that are due to the imperfections of machining operations, but it will not go further than this and, in fact, tendency is for piston friction to make cylinder walls more irregular rather than to make them more perfect.



F. E. D. asks: Is there any instrument for testing the strength of alcohol anti-freeze mixture, which will give correct indications whether the solution tested is hot or cold?

Answer: There are instruments on the market with two scales, one giving the freezing point when used in hot solution and the other when used in cold. There are also instruments to be had, which embody a hydrometer in addition to the hydrometer and by means of which the temperature of the liquid tested can be ascertained. By means of a correction table furnished, the corrected hydrometer reading and hence the exact freezing point of the liquid can be determined, when its temperature has been taken into account.

When The Drive Wheels Slip

WHENEVER THE REAR WHEELS cease to turn, with the car still in motion, or turn without moving the car correspondingly, there is relative motion between the tires and the road surface and this can have but upon the weight carried by the slipping wheels, their adhesion to the road and the character of its surface. If the wheels stop turning and the car keeps moving, all the wearing effect of the slippage is concentrated upon the small area of the tire which is in contact with the road and a flat spot may be worn in the tread, possibly so deep as to expose the fabric to future destruction by dampness. Every time the brakes lock the wheels particularly when the car is at speed on a sharp surfaced road, this local wearing off of the tire treads may occur. When the clutch is let in suddenly, with the engine at high speed and the wheels slip, although the tread wear is distributed over its whole surface it is there nevertheless and represents a distinct loss in expected tire service. With a lightly loaded car, on a loose surfaced road, it is perfectly possible to slip the drive wheels by suddenly opening the throttle wide and as the tires "scratch gravel" the gravel also scratches the tires. Sometimes the wheels slip alternately or "chatter" and this action is a terribly severe test of the differential gears.

INSTALLING MANIFOLD HEATER



J. C. H. writes: The engine of my car has no means by which its intake manifold is heated and I have been solicited to buy and install a manifold heater, which will fit this engine. The manufacturer guarantees that its use will insure me better gasoline mileage. Do you think it would prove a benefit and would it give good results in all seasons?

Answer: Some form of heat application to the intake—some "hot spot" arrangement—is to be found on practically all modern engines and the advantages derived from this practice are generally admitted. An engine without such an arrangement can hardly be expected to secure perfect enough vaporization to enable it to give its utmost fuel economy. If the dealer you refer to is properly worked out, so that liquid fuel in the charges is vaporized without heating and too greatly expanding the charges as a whole, we believe its installation would make your engine more economical not only in cold weather, but throughout the year.

ENGINE CARBONIZES RAPIDLY

O. E. M. writes: My engine develops a carbon knock after each 500 miles of service and I find the deposit on the piston heads hard and flinty, while that elsewhere is soft and sticky, making me think that it comes from the oil. I run on the leanest possible mixture and use the best oil. Would the use of oil-groove piston rings anything like this happened.

Questions of general interest to the motorist will be answered by Mr. Clough in this column, space permitting. If an immediate answer is desired, enclose self-addressed, stamped envelope.

and oil-relief holes in the pistons help? What else can you suggest?

Answer: The very hard deposits on the pistons indicate that they run pretty hot and this may account for the frequency with which your engine develops a knock. Its manufacturer has just adopted aluminum pistons and you might see if these are applicable to your engine, as we believe they would keep much cooler. If you are sure your engine pumps oil and its cylinder bores are perfect, your suggested ring experiment might prove beneficial. As an experiment, you might try using two instead of one cylinder head gaskets, thus reducing compression slightly and possibly making the engine less sensitive to the effects of carbonization.



R. J. K. writes: My car suddenly developed a loud squeaking noise and upon stopping the engine, I discovered water squirting from a defective core-plug in the cylinder block. After stopping the leak and starting the engine, the noise was completely gone. What caused it?

Answer: We do not know. Perhaps some reader can tell. Of course, if nearly all the water had escaped from the cooling system and the engine had therefore overheated to such a degree that lubrication failed, the pistons might have squeaked on their cylinder walls, but we do not know that the use of oil-groove piston rings anything like this happened.



The Studebaker Light-Six Touring

Your Next Car

Will be this Light-Six, if you learn the truth

When you buy a car in this class, here are some things you should know. Studebaker is the largest builder of quality cars in the world. It builds 150,000 yearly.

It builds in model factories, modernly equipped. It has spent \$38,000,000 in the past five years on new-day plants and machinery.

By quantity and up-to-dateness it saves large sums per car. A car like this Light-Six, built under ordinary conditions, would cost you from \$200 to \$400 more.

11.4% less to run

This extra quality shows in lower operating costs. This was proved by an audited test made on 329 cars running up to 25,000 miles. The Studebaker Light-Six costs 11.4% less to operate than the average of its rivals. This includes depreciation. The saving was nearly one cent per mile.

This car in its chassis represents the best we know. In steels and workmanship it is identical with the costliest cars we build.

Each steel formula has been proved best for its purpose by years of tests. On some we pay 15% premium to makers to get them exactly right.

The car is designed and built under an engineering department which costs us \$500,000 yearly.

Each car in the building gets 32,000 tests and inspections.

It has more Timken bearings than any rival car within \$1,500 of its price.

The crankshafts are machined on all surfaces, as was done with the Liberty Airplane Motors. This to secure perfect balance.

There are scores of extra values, including genuine leather cushions ten inches deep, unusual equipment, beautiful finish.

An honored name

The name Studebaker has for 72 years stood for quality and class. Now there are \$90,000,000 of assets behind it, all staked on fulfilling those ancient traditions.

People are learning of these extra values. The trend toward Studebakers has become a sensation. Sales have almost tripled in three years. Last year, 145,167 people paid \$201,000,000 for Studebaker cars.

Don't buy a fine car without learning what Studebaker offers. You will be amazed when you make comparisons.

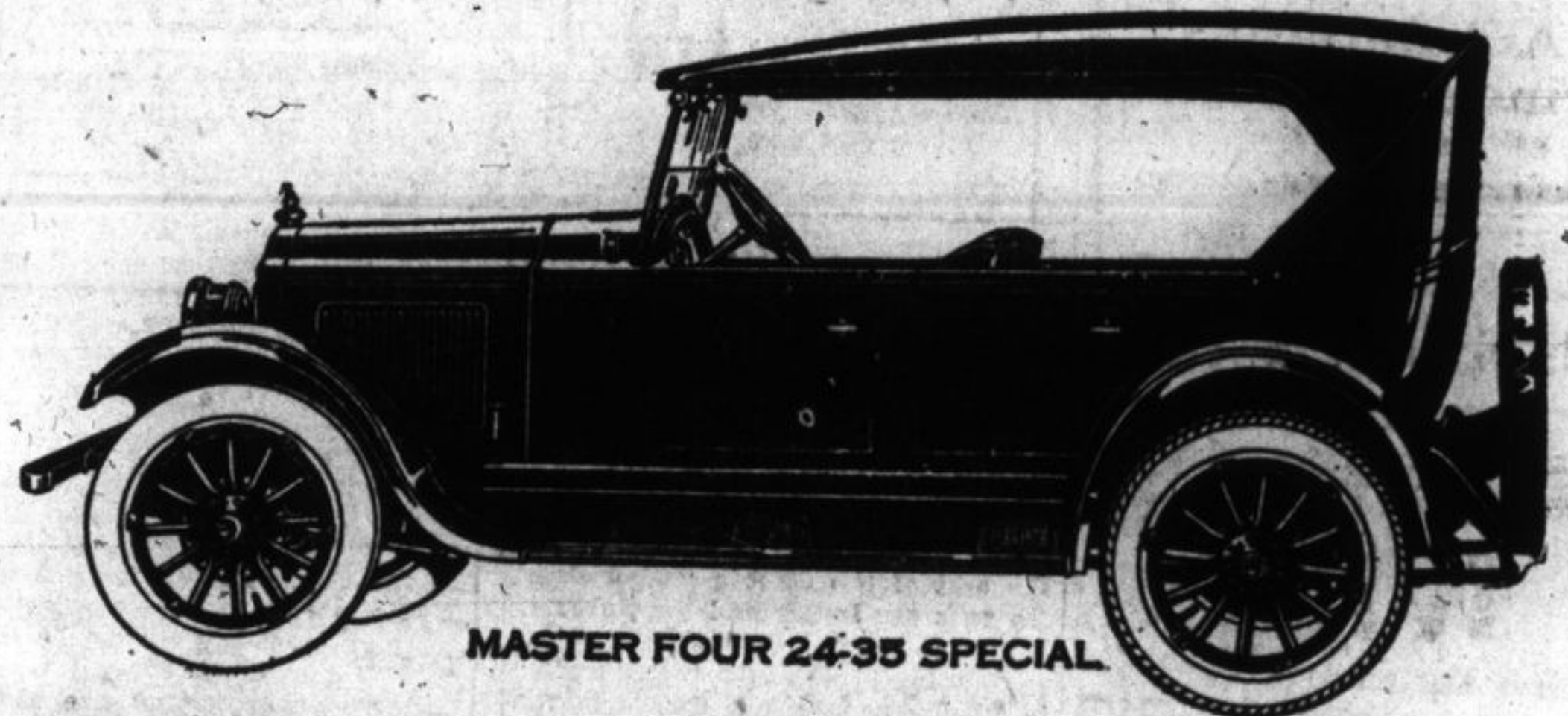
LIGHT-SIX	SPECIAL-SIX	BIG-SIX
5-Pass. 112-in. W.B. 40 H.P.	5-Pass. 119-in. W.B. 50 H.P.	7-Pass. 126-in. W.B. 60 H.P.
Touring \$1465	Touring \$2000	Touring \$2425
Roadster (2-Pass.) 1445	Roadster (2-Pass.) 1970	Speedster (5-Pass.) 2590
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