

# IN THE AUTOMOBILE WORLD



## BEAVER Service

Guarantees the continuous and economical operation of Beaver Trucks. Beaver Service Stations throughout the country save many dollars in repair bills by free monthly inspection that keeps little troubles from growing big. Ask us or the nearest Beaver Service Station how you can save many dollars on your original investment and upkeep.

All Beaver Motors are built by Buda Beaver Built Bodies as required.

- Beaver Bullet 1 1/2-Ton Speed Truck
- Beaver 1 1/2 - 2-Ton
- Beaver 2 1/2 - 3-Ton
- Beaver 3-Ton Dump

Built in Hamilton, Canada

**BEAVER TRUCK CORPORATION LIMITED**

Now 61 Service Stations in Ontario.

## HINTS FOR THE MOTORIST

By ALBERT L. CLOUGH  
Worn Valve Guides

"Ragged" Low-Throttle Operation May Be Caused By Them

THE GUIDES in the valve chamber portion of the cylinder block, in which the stems of the valves move up and down, are among the first parts of an engine to wear out, for the reason that it is difficult to secure for them the copious oiling, which other bearing surfaces enjoy, and after an engine has been long in service it is often necessary to correct this wear. If there is serious looseness between an inlet valve stem and its guide, the suction stroke of the cylinder in question not only is mixture drawn in through the suction stroke of the cylinder but air is also drawn into the valve chamber and cylinder through this unintentional channel, with the result that the mixture is involuntarily diluted, possibly to such an extent as to prevent idle operation, with the carburetor set for a normal running mixture. Similarly, when there is serious wear between exhaust valve stems and guides, the space created forms an unintentional passage for exhaust gases, when the valve opens, and this escape makes a "spitting" noise, which may become quite annoying. Valve guides are usually bronze bushings, of somewhat tubular form, pressed into holes bored in the valve chamber casting and when the above described wear has gone too far to be tolerated, the proper thing to do is to have the cylinder head and valves removed, the old valves installed or carefully driven out, new ones pressed in and new stems somewhat oversized, and in such cases, it may be practicable to ream out the old guides to true form and to the larger stems and thus restore tightness. If an engine, that is idling irregularly, speeds up when gasoline is squirted around its inlet-valve stems, it indicates that wear has gone far enough to cause air leakage to these points.

### A COOLING SYSTEM DIFFICULTY



J. N. S. writes: Soon after removing carbon and grinding the valves of my car, I began to be troubled by the radiator water boiling very soon after I started the engine. Everything about the cooling system seems to be in order. What do you think is the trouble? Answer: When you removed the cylinder head to scrape the carbon, you must have removed the rubber connection to the radiator. Is it possible that, when you replaced this, the inner rubber doubled up inside and is now choking the out-flowing circulation? Can it be that some waste you were using to keep grinding compound out of the cylinders, accidentally got into one of the water-jacket spaces and has caught in the pump or elsewhere, thus slowing down the circulation? Could the head-gasket have been replaced wrongly, so as to obstruct the water circulation in the jackets? If your trouble really has anything to do with your having had the engine apart, the above seem the most likely guesses. You did not disturb the fan-adjustment, did you? Unless the belt is tight enough so that the fan stops almost as soon as the engine does, it cannot be depended upon to move much air at high speeds.

### PERHAPS A SPARK KNOCK

J. K. writes: After 2,000 miles of service, my car has developed a slight knock, which appears only when it is running quite slowly on up grades and disappears when the engine speeds up. All bearings are tight, valves have recently been ground and carbon has been removed. What is the most probable cause? Answer: "On the face of the evidence" it seems most likely that this is an ignition knock, resulting from the spark being set a little early to suit conditions, when the engine is turning over slowly with the throttle well opened. It sometimes happens that when the breaker points advances the spark position quite a little, enough so that with all the retard that can be secured by the spark lever, ignition occurs before it should, at slow speeds. You better check up the separation of your breaker points and adjust them if it proves necessary, and also verify the correctness of your spark-timing by reference to the flywheel-marks and the instruction book, making any change that may be found necessary.



### The Noisy Starter Drive

IN THE COMMONEST FORM of starter drive—that which involves a gear connection between the starting motor and the flywheel—noisy operation is usually due to imperfect gear action. Among the possible causes of excessive noise are the following: Inexact alignment of pinion shaft and flywheel shaft. Too deep mesh of pinion and flywheel gears. Insecure fastening of starter motor. Bent pinion shaft. Broken or burred teeth in pinion or gear. Many starter drives are of the double reduction type, that is, in addition to the flywheel ring-gear and the pinion, which engages it, there is another pair of gears incorporated in the motor housing, which forms a part of the driving train. These gears are supposed to be lubricated, while the final gears usually are not and if they become dry, considerable avoidable noise is the result. The motorist should find out whether his starter drive includes gears which require special lubrication and, if so, this should be attended to. Also it is well to try the hold-down nuts of the starter motor, once in a while to see that they are tight, as an assurance against the driving mechanism getting out of line. Irregular noise of a starter is often the result of unequal tightness of the engine cylinders, the starter motor slowing down and speeding up when strong and weak cylinders, respectively, are passing compression.

### INCREASING THE CHARGING RATE



M. M. M. writes: I have been having some trouble in keeping the battery charged on my car, as I drive but little and make short trips only. Can the generator be readjusted so as to charge at a higher rate and, if so, how? Answer: This generator has third-brush regulation and its output can be increased by loosening the holder of the third-brush (the one that has connection with the field-winding only), moving it slightly in the direction of armature rotation and securing it there. It is usually necessary to red the brush and to the commutator in its new position. This is rather a fussy job, which can be done more conveniently by a service station than by the motorist. Before having this change made, we advise you to make sure that the battery terminals are clean and tight, that the battery and wiring are in perfect condition to hold the charge and that the brushes and commutator of the generator are O. K. You may find that by attending to these details, readjustment of the charging rate will not be necessary.

### AVOIDING THE "LEMON" CAR



C. W. asks: In taking delivery of a new car, is there any way in which one can tell whether the particular car that is offered is likely to prove a good one? Answer: There is no positive way. 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.

### Care of the Springs.

To add to the life of the springs and to afford additional riding comfort, lubricate well between the spring leaves. If no leaf wedge or spreader is at hand, a screwdriver can be used by driving it between the

leaves at a point near the end of each lower leaf. Use a thin oil, into which has been mixed a small amount of graphite, squirting between the leaves with a hand oiler, allowing the oil to drain toward the centre of the leaf, removing screwdriver.

## INFORMATION ISSUED BY HON. F. C. BIGGS

Persons May Be Summarily Arrested For Various Offences.

In a memorandum, issued by the minister of public works and highways on June 13th, the following information of interests to motorists, is found:

- The motor vehicle law of the province has for many years provided that persons might be summarily arrested for the following offences:
  - Operating a motor vehicle without a number plate issued by the department.
  - Carrying the number plate where it is not distinctly visible.
  - Carrying a number plate or exposing other plates than those issued by the department.
  - Excessive speeding or reckless driving.
  - Driving while intoxicated.
  - Failure to return to scene of accident.

As previously stated, summary arrest for the foregoing offences has been operative for some years, and no change has been made in this respect by recent legislation, other than to add the provision that persons may be summarily arrested for failure to register changes of address; or the obtaining of an automobile permit by a false declaration or statement.

The reason of the amendment is that officers of the law have complained that they are unable to deliver a summons to a person who has changed his address without notice; or who has given false information in this regard; and the only method of dealing with such a person who has committed such offences is to render him liable to summary arrest. Officers of the law have complained to the department that although such persons required for other offences may be seen driving around the cities, yet without being able to summarily arrest them they are unable otherwise to serve a summons upon them.

The report which has gained some currency, to the effect that motorists are subject to imprisonment for certain offences under recent legislation, is without foundation. The modification of existing legislation has been extremely slight, and is as much for the purpose of protecting reasonable motorists as for protecting the general public.

## "Your Car Deserves One"

The Boyce Moto-Meter saves many times its cost in less than a year. Come in and have its advantages explained.

## Automotive Equipment

109 BROCK STREET TELEPHONE 818W.

## New Gasoline Service Station

Our new Gasoline Service Station is now open to the public and we are prepared to give real efficient service that will be appreciated. Situated as we are, in the centre of the business district, we are easily reached from all four main roads. Our Used Car Department has now 13 cars and trucks on the floor, which we can recommend to prospective purchasers, who are in need of a used car of quality. Our first-class repair department under the personal supervision of Mr. Frank Wafer is now handling all kinds of repairs. We are now wrecking a Studebaker 6, Maxwell, Chevrolet and Ford. From this department only the best parts are stocked, and can be bought at greatly reduced prices.

## Palmer's Used Car & Salvage Co., Ltd.

Corner Bagot and Queen Streets

Oiling, Cleaning, Adjusting. If an automobile is properly lubricated and minor adjustments made when the need demands them, it will be unnecessary to arrange for complete overhauling of the car, such as the taking apart, cleaning, adjusting and replacing worn parts of every mechanics unit. Rattles or knocks develop, but will be discovered immediately as they occur if a weekly inspection is given by the owner, and should be attended to and remedied at once. When the car is very old and has reached its limit of service, general overhauling may be necessary, although even then there may be parts in fair condition.

## Absolute Evidence in Favor of Ground Cylinders

All high grade automobile engines manufactured in this country as well as in Europe have their cylinder bores finished by grinding. Some of the American cars that might be mentioned are:

- |            |            |                |
|------------|------------|----------------|
| Apperson   | Hudson     | Peerless       |
| Brewster   | Kissel     | Pierce Arrow   |
| Cadillac   | LaFayette  | Rolls Royce    |
| Cunningham | Lincoln    | Standard       |
| Dorris     | Locomobile | Stevens Duryea |
| Franklin   | Marmon     | Stutz          |
| Haynes     | Merced     | Templar        |
| Holmes     | Packard    | Winton         |

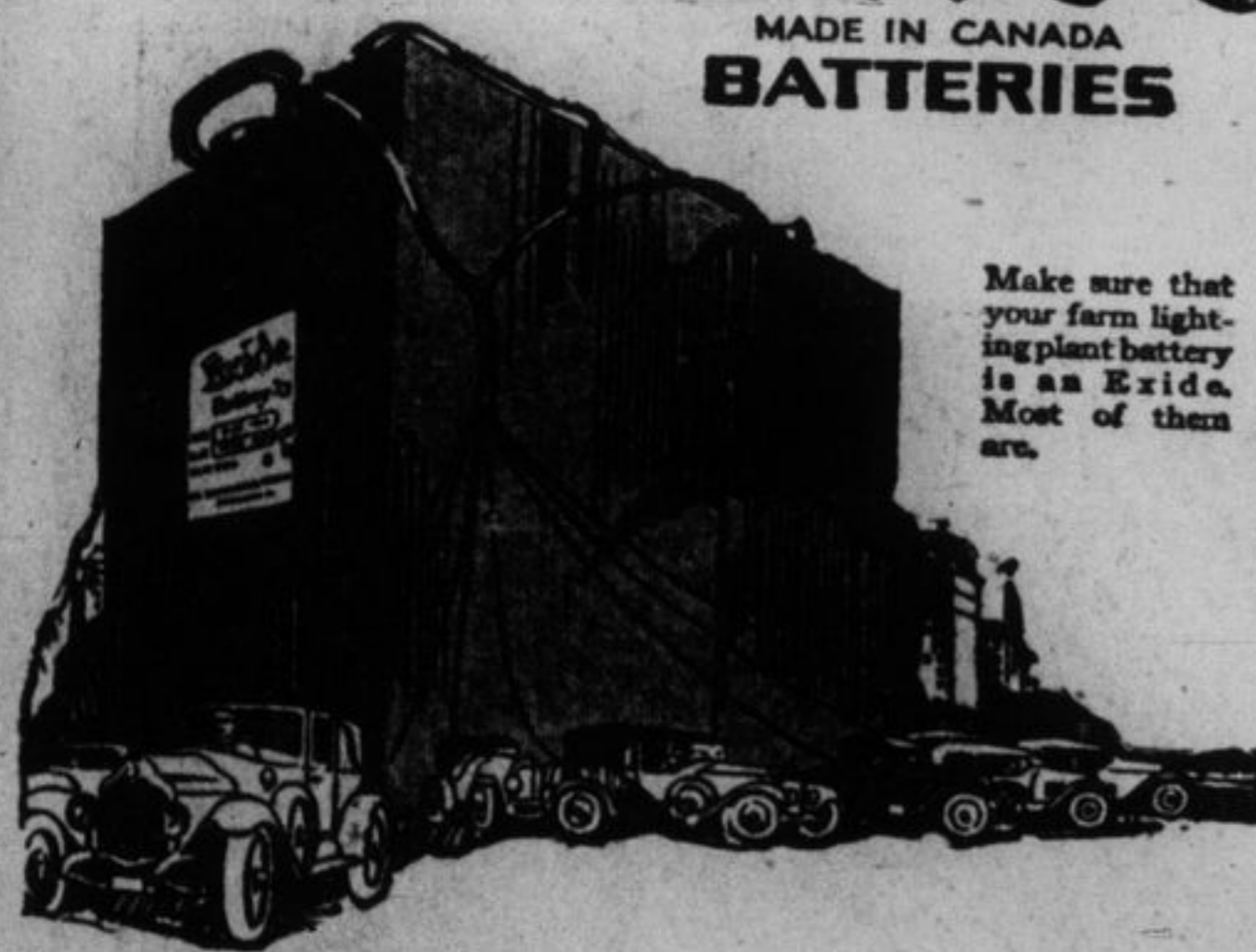
In fact, 84% of all the manufacturers of pleasure cars use engines with ground cylinder bores, and 91% of the commercial motor are ground. Head Machines are used exclusively.

Automobile owners we have one of these Head Cylinder Grinding Machines, and can guarantee first class work. Ground cylinders is a selling point with many cars.

## Automotive Grinders

R. M. CAMPBELL, Corner of Queen and Wellington Streets.

## Exide BATTERIES



Make sure that your farm lighting plant battery is an Exide. Most of them are.

## There Will Come a Time

Even if your battery is a long-lasting Exide, there will come a time when you must have a new battery.

When that time comes, don't just buy a battery—get the battery for your car. For you will find, as many others have, that the uninterrupted service and extra long life of an Exide is not only a comfort but a true economy.

Insist on an Exide Battery. If you have any trouble in getting one, write us or our nearest district distributor.

District Distributors

THE UNIVERSAL BATTERY CO., LIMITED, OSHAWA, Ont.

EXIDE BATTERIES OF CANADA, LIMITED  
153 Dufferin Street, TORONTO

THE LONG-LIFE BATTERY FOR YOUR CAR

## SUDDABY BROS., Local Distributors



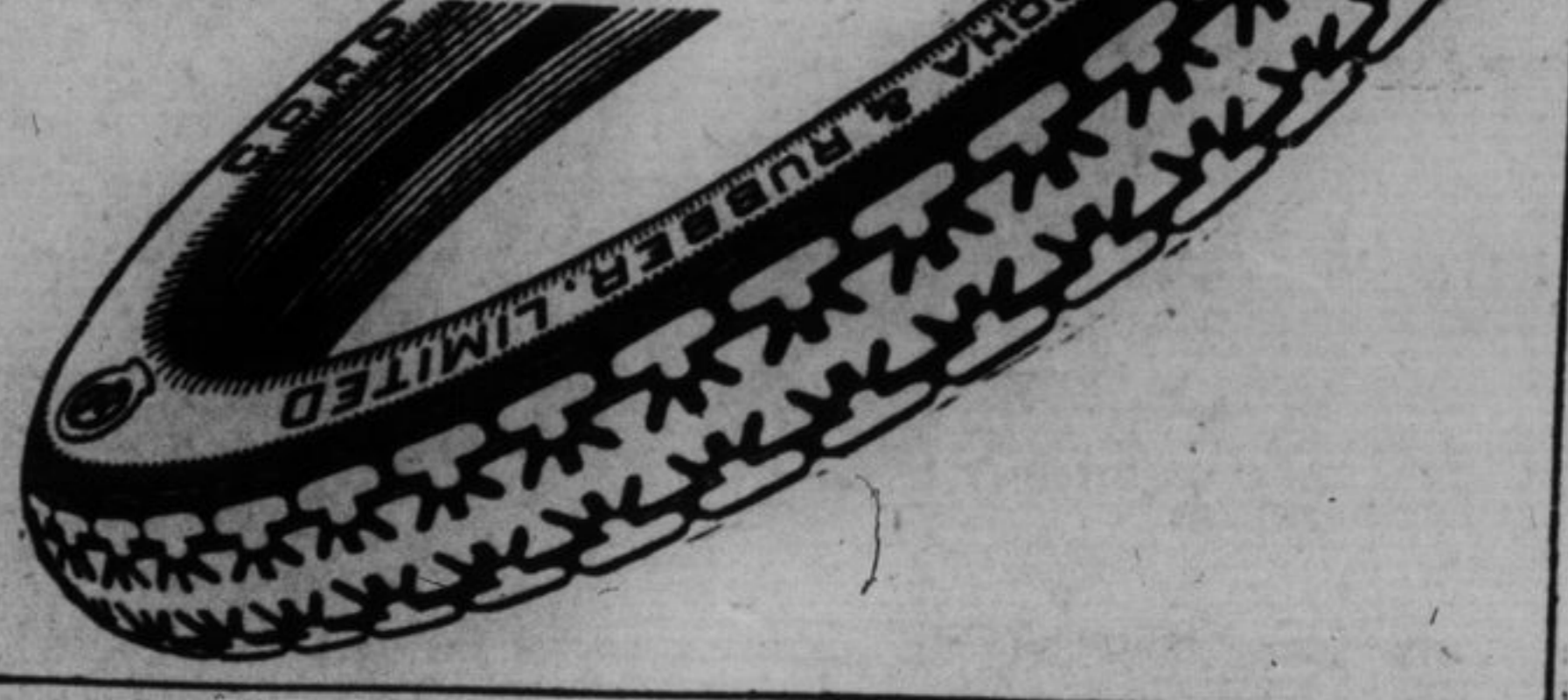
## touring

"As your mind is, so are you," said a great philosopher. Men and women take varying degrees of pleasure in driving an automobile, and the pleasure varies with the degrees of complacency and composure which fill the mind. What is the object of touring? Pleasure. But there's no pleasure touring in a car loaded (or shod) with worry. If your mind is uneasy about your tires, you are not enjoying yourself. Put your mind at peace and sit back luxuriously behind your wheel and let the accelerator do its bit; it's all right, you're safe, and you know it, if your car is flying along on "Gutta Percha" Tires.

The last word in CORD construction. Maximum mileage at minimum cost.

## "GUTTA PERCHA" TIRES

"Quality all Through"



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