

# In the Automobile World

## DEFECTIVE MOTOR LUBRICATION IS NOW VERY SELDOM EXPERIENCED

### Oiling System Seldom Goes Wrong; Principal Cause of Trouble is Thinning of Oil From Leaking Gasoline and Accumulation of Grit in Oil Base.

The most serious defect that could occur with the lubricating system is failure of the pump, but, fortunately, this rarely occurs. The pumps are small affairs, but sufficiently rugged as their work is light. Certainly they never fail for lack of lubrication because they run in a bath of oil.

#### Two Kinds of Pumps.

There are two kinds of pumps in engine oiling—the gear and the plunger types. The gear pump has two gears revolving, one of them being driven by a shaft which runs down from the cam shaft. The gear teeth catch the oil and carry it around until they mesh with each other when the oil is squeezed out. The plunger type is worked directly from the cam shaft. It has two check valves. As the plunger moves toward the cam shaft, the oil is sucked into the body of the pump, one of the check valves opening to admit it. This valve closes when the plunger stops. The plunger is now forced in by the cam on the cam shaft and the oil goes out by the other check valve. In case a piece of dirt gets by the strainer and passes into the gear pump, the shaft will break. The plunger pump is more rugged, but it depends upon a spring for the return of the plunger. If dirt enters it is apt to jam the plunger.

Failure of the pump is indicated immediately on the dash at the pressure gauge or sight feed. But this must not be confused with another trouble—an air-bound pump. Where the pump is set above the oil level there is always danger of its becoming filled with air. It then fails to pump oil, making a dangerous condition for the engine. It is customary, in such cases, to unscrew the oil pipe at the sight gauge and to inject oil from the squirt can. This runs down and fills the pump, "priming" it, as we say. The pipe is then replaced, the engine started and the gauge watched. If now the pump does not operate it is broken or jammed and must be taken apart for inspection.

#### Clogged Pipe Trouble.

Another serious trouble is a clog-

#### Hints for Motorists.

Do not under-inflate and do not over-inflate your tires. If too soft they will heat up too much and wear out all the sooner. If they are too hard they make harder riding and require more gasoline consumption, as the soft tire wraps itself around an obstacle, whereas a hard tire does not yield but must be pushed over the obstruction.

When ball bearings become worn it is not always necessary to have complete new bearings installed. The old ones can be repaired and be almost as good as new. This can be done by turning up the ball races and using larger balls of the proper size.

It is a good plan to start the engine when filling the radiator of a car using a pump system. In some cases there are places which fill with air which only can be dislodged by running the engine. The system may seem full but after the engine has started the level will be found too low. Running the engine while filling will do away with this.

A little oil and graphite injected between the spring leaves will make the spring more flexible and prevent squeaks, due to rusting. The easy-riding qualities of the car will be much improved as well.

Present-day self-starting and electric lighting systems require efficient batteries. For this reason the battery should receive careful attention. It

## BOWEL POISON MAKE YOU SICK

Your bowels may seem regular—more every day—yet your thirty feet of bowels may be lined with poisonous waste, which is being sucked into your blood, keeping you half sick, nervous, despondent and upset. Whether you have headache, colds, sour stomach, indigestion, or heart palpitation, it is usually from bowel poison.



## CLEAR VISION FOR DRIVERS

### Keep Windshield Clean on Foggy Nights by This Solution.

There are many inquiries these days for something which will keep the windshield clear enough for careful driving during a storm. Only one who has sat behind a foggy windshield will know the feeling of anxiety, almost helplessness, which the driver has.

There are a number of mixtures sold which are guaranteed to keep rain off the windshield, but a simple one may be made by any driver and be carried for instant use.

A small bottle filled with alcohol and glycerine, half and half, and a soft cloth to apply it are all that one needs. It is not necessary to paint the whole glass with this. Take a strip six or eight inches wide and the height of the windshield and coat it with the mixture, and the rain or snow will not stick to that part. This will give ample vision for driving, and when the shower is over there is plenty of clear glass on either side.

### Regulate Pet-Cock.

A relief cock with a handle that is vertical when the valve is closed is apt to work open if the plug loosens through wear. The best way is to throw out the offending cock and buy a new one with the hole set properly, especially one with a spring to hold the plug tight in spite of wear. Another method is to fill the hole in the plug with a piece of brass wire carefully fitted and to drill a new hole in such a position that the valve is closed when the handle is down.

### Issues News Letter.

The Ottawa Motor Board has followed the example set by the Automobile Club of Canada and is issuing a news letter to its members containing useful information about road conditions, routes, and legislative matters, which is being much appreciated. The Nova Scotia Good Roads Association is shortly going to follow the same course, so as to keep its members fully informed of improvements made in the highway system of that province.

### Is Your Stomach Sour? Do You Belch Gas?

If you have sour risings from the stomach, feel bloated and uncomfortable, just try twenty drops of Nerviline in sweetened water. Relief will come quick. Nerviline dispels the gas, sweetens the stomach, makes you fit and fine in a few minutes. As a general household remedy for many of the ills that constantly turn up, nothing is more useful in every home than a 35 cent bottle of good old "Nerviline."

Lettered beads which can be strung into necklaces that spell names have been invented to identify babies and prevent mistakes in maternity hospitals.

An electro-magnetic process has been developed in Germany for the recovery of coal and coke from the ashes of industrial furnaces using hard coal.

A Connecticut city has the first factory in which houses are built of concrete in quantity, ready to be delivered to purchasers by motor trucks.

A new bicycle is driven by pressing downward pedals which unwind steel cables attached to drums on the rear wheel, the cables being alternately wound as each pedal is lifted.

The running times of as many as 50 machines in a factory can be registered electrically by a new device to be kept at any desired place that has been invented in England.

A Minnesota inventor's warehouse truck is equipped with a spring motor to help it up inclines, the spring being wound by running the truck over a level floor.

A novel musical instrument for orchestras is equipped with a single banjo string which is played with a cello bow, the sounds being amplified by a horn.

## BASE BECOMES FILLED.

As time goes on and the car piles up its hundreds of miles the oil grows dirtier and thicker, unless there is gasoline condensation. Dust gets in from the outside, carbon comes down from the cylinders, and the lighter parts of the oil evaporate and in time the bottom of the oil base becomes clogged with a heavy muck. This has been known to obstruct the flow of oil to the pump, stopping the circulation entirely. The usual (and thoughtless) way to remove this deposit is to drain off the engine under its own power. This loosens the muck so that some of it may then be drawn out when the oil base is drained, but it also splashes the fine grit into the bearings, where it acts as a fine grinding compound.

The one way to remove this muck and grit is to drop the oil base and take it out by hand. This is a troublesome process, but is far better than stirring up the grit and splashing it into the bearings.

## MOTOR TRUCK INDUSTRY GROWING VERY FAST

### Expansion Is Well Illustrated by Exhibits at the Toronto Exhibition.

The expansion in the motor truck industry is illustrated by this section of the motor show held in connection with the Toronto exhibition. The vehicles are more numerous and of a wider range than at any previous show. The exhibits are in separate tents, an arrangement which is far from satisfactory both from the purchaser and manufacturer's viewpoints, as it precludes a comprehensive view of the machines.

The trucks include vehicles and bodies suitable for almost every industry where haulage is required. They range from light speed wagons to immense chassis with five yard self-dumping bodies for construction work and for carrying heavy commodities. There has been a tremendous increase in the industries which use trucks, experience having shown that haulage costs can be reduced, when contrasted with horse drawn vehicles.

It is satisfactory to note that Canadian capital is being invested in the construction—or, more properly speaking, the assembling—of trucks. American manufacturers, too, are waking to the fact that it is economical to build trucks on this side—and hence the made-in-Canada note is emphasized very strongly at many of the exhibits.

The feature of the show is the large number of heavy trucks, many fitted with Goodyear and Dunlop giant pneumatic tires. Some of these heavy vehicles are fitted with hydraulic hoists. Both the National and Packard companies stage exhibits designed to save time in loading. The former company has a chassis equipped with removable bodies, which can be loaded while the truck is on a journey. The Packard equipment consists of a trailer unit for use with a truck tractor. Three trailers enable loading to be done during the journey of the truck, thus effecting economy in the time of loading. The trailer and truck are coupled by a simple arrangement.

Most of the leading Canadian and American firms are represented. English makers are making a more serious attempt to secure Canadian orders; the Leyland and Commer companies had specimens of their production on view, while the Billing-Stevens Motors, Limited, exhibited one of their buses made for London traffic. This was interesting in view of the fact that the Toronto Transportation Commission has decided to experiment with buses. Seven are to be run—four of American make, two of English make, and one of Canadian construction. They will each seat 48 people, twenty-two inside and twenty-six outside. It remains to be seen whether the outside accommodation is practicable under Canadian climatic conditions.

With regard to pleasure cars, there is an inclination to revert more freely to four cylinder engines, and some new models are of this type.

**First Week-Tests.**  
Many drivers do their new car more damage during the first week they drive than at any other time. Often these drivers do not stop to study directions for handling a new car. As a result they often wear up the gears and badly abuse their new tires. But their greatest offense is in neglect of oiling. A new car requires considerable time for its parts to become "worked in". During this adjustment fast driving causes undue heat, and lack of ample lubrication aggravates the situation.

**Advice To Rear Seat Drivers.**  
Rear seat drivers are the most dangerous kind of passengers. They constantly keep their feet working an imaginary pedal and give verbal direction in the operation of the car. They are nervous individuals who do not realize that their rear seat driving gets the real driver nervous.

## More Months and More Miles

Some motor-car owners figure battery life by miles—others by months—of service. Both are suited with the Willard Threaded Rubber Battery.

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