

Know Thy Car--And It Will Profit Thee

PRACTICAL PARAGRAPHS

Of Interest to Owners of Automobiles

Wearing Adjustment.

After taking up lost motion in a bearing, take care in making the final adjustment that the strain remains on the bolts does not come on the journal but on the faces of the bearing lines or washers.

Emergency Pipe Repair.

A satisfactory temporary repair can be made on a leaking water pipe by winding around it several layers of string soaked in heavy oil.

Radiator Leaks.

A frequent cause of leaks in radiators is that the vents in the filling caps and overflows become choked, with the result that pressure accumulates in the radiator and the pressure, seeking an outlet, forces an opening at the weakest point. A little attention to the vent will remove the cause of trouble.

Rubber to Metal.

Rubber of any sort, matting for instance, may be secured to metal surfaces by using a cement made by dissolving fish glue in alcohol to form a thick syrup. Several thin coats carefully applied should be given to each surface and the first coat should not be allowed to dry before another is applied. Press the rubber carefully upon the metal and by the use of a piece of board and heavy weights, keep the two surfaces pressed together for at least twenty-four hours.

Removing Broken Screw.

When the sides of the slot of a screw are badly worn, it very often happens that a pair of gas-pliers will serve by getting a bite on the outside of the head to turn it. Sometimes, however, it is necessary to cut the slot deeper with a small, narrow-edged cold chisel. When this can be done the screw driver may be employed after wards. If the screw head is large, a sharp tap in a tangential direction with a cold chisel and hammer will many times start the screw so that the screw driver will do the rest.

HE KNEW HER.

Wife—You remember that second last cook we had; she got drunk, and the judge has given her thirty days.
Hub—Thirty days, eh? She won't stay half the time.



"Buy a Bicycle"

Spring weather calls you outside—why ride any longer on the stuffy cars to and from work when \$37.50 in carfare will buy this handsome "Black Beauty"? Think it over and come look over some of our other wheels.

DAYTON ECLIPSE \$30.00 UP
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Lubricate the New Car.

It is not safe to assume that all parts of the car that has just been delivered to the new owner have been properly lubricated. It sometimes happens that grease cups have been left unfilled when the car was shipped and that wheel bearings, universal joints, steering gears, etc., have been overlooked. It is always well to go carefully over the lubricating system of the new car and see that it has its due allotment of lubricant.

Latch Dogs.

The latch dogs on emergency brake levers are called upon for pretty strenuous service on occasion and they sometimes break. It is a good idea to have a spare latch dog in the tool box against this chance.

Binding Steering Gears.

It sometimes happens that a lack of lubricant under the influence of a too heavy load causes an apparent binding of the steering wheel. Sometimes dirt works its way into this bearing and causes the parts to clamp.

Sealing Grease Cups.

Grease cups on the universals and in similar locations have a tendency to work loose under the influence of centrifugal force. In cases where this trouble has been frequently encountered, it is recommended that after the cups are screwed into place they be set by means of a center punch.

Cleaning Brass.

Some of the brasswork of the car, because of its position and the work it has to perform, is apt to get into a rough state that makes it difficult to keep clean. This applies to the brass strip edging the running boards and the foot-plates on the door sills. It is difficult to keep these with liquid brass polish, which has the characteristic of staining the surrounding territory, including the rubber foot-board covering. It is better to stop using the liquid here and to polish the brass with the finest grade of emery cloth. A piece of this cloth that has been used somewhat elsewhere and so has lost some of its cut is best for this work.

NOT THE SAME.

Critic Butler Glensier took down a presumptuous playwright the other evening at the Players' Club in Gramercy Park.

"I've written a play on the social evil," the man said pompously. "Something on the order of Ibsen's 'Ghosts,' you know. Yes, Ibsen and I are pulling in the same boat now."
"But not," smiled Mr. Glensier, "with the same sculls."

AUTOMOBILE CLUB PREPARING MAPS OF NEARBY TOURS

Washington's energetic automobile club proposes to do its bit for the men and women who are doing their bit in the National Capital for Uncle Sam.

It has been estimated that during the coming summer there will be 8,000 privately-owned passenger automobiles in use in Washington by recently-added workers in the service of the Government.

For the benefit of these new residents, as well as for the multiplying number of Washington car owners who are now beginning to get acquainted with the attractions of the country contiguous to the "National Capital," the local motor club is preparing a series of strip maps showing in detail the best route to every point of interest within a radius of approximately eighty-five miles.

The longer detail strip maps—such as the Washington-New York trip—have been already worked out and the local routes are in course of preparation.

It is anticipated that Harpers Ferry, Winchester, Mt. Vernon, Annapolis, Gettysburg, and other historic towns and cities will be visited in greater number than ever this year. Touring information for all motorists will be available at the offices of the motor club in the Riggs building, or may be applied for through the automobile editor of this newspaper.

HER INTENTION WAS GOOD.

There are some persons whose good intention is quite apparent on occasion even though a slip of the tongue may place them at a disadvantage.

A young clergyman who was a popular member of a boarding-house family had an opportunity to act as supply for a few weeks at an out-of-town church.

When he returned his fellow boarders offered many kindly expressions of their pleasure at seeing him again, and an elderly woman, evidently wishing to say something particularly appropriate, greeted him cordially with: "Oh, we are so glad the fatted calf has returned!"—Exchange.

WHAT do you know about the cooling system of your car? The fact that it requires but little attention is all the more reason why you should give it the consideration it deserves. Many things the auto owner should know will be touched upon in this section from time to time.

Cooling System of the Modern Car

The past two years have brought greater progress in the development of engine cooling than all the period before. Engineers have learned much about the possibilities of this part of the car and the ordinary car owner will be the better for being informed on the subject.

To begin with the cooling system is a necessary evil. Thirty-five per cent of the power generated in the cylinders is dissipated through the cooling water. If it were not for the fact that oil breaks down and burns under high heat, we could get along without the cooling system and save over a third of the power that is now wasted. However, lubrication is absolutely essential in the internal combustion engine and to maintain the oil film between the various moving parts we have to have the cooling system.

At the present time there are two distinct methods of cooling the engine, one employing water, the other air. In the air cooled engine, the heat is dissipated through fins projecting out from the cylinder. In the water cooled system, the fluid is kept in constant circulation in jackets or compartments around the cylinders. The system includes a radiator, fan, and a means for keeping the water circulating.

In operation the water circulates around the cylinders and then goes to the top of the radiator and flows down to the bottom, through the tubes or cells, giving off its heat on the way. The fan draws air through the interstices between the tubes or cells and this air carries the heat away from the water. Without the fan, a much greater area would be necessary than could be obtained in the radiator of a car.

Two methods of forcing the circulation of water through the system are now in vogue, thermo-siphon and pump. Thermo-siphon cooling is sometimes called the natural method. No pump is used here, the movement of the water being assured through the natural law that hot water is lighter than cold and consequently rises to the top. In this system, as soon as the engine starts, the water in the jackets gets hot, rising to the top, displacing cooler water. In this way the hot water pushing its way to the top and the cooler water rushing in to take its place, starts a circulation of the fluid, sufficient to keep the engine properly cooled. It is necessary in the thermo-siphon system that the water pipes be of generous size and that the radiator be placed high above the water jackets, so that the outlet pipe will slant upward while the inlet pipe will slant little slant.

The thermo-siphon system is the simplest method of cooling the engine and when properly designed, is effective for ordinary service. It has not the positive action of the pump system, but it does very well, particularly on V-type and horizontal engines, where the radiator may be set high as compared with the water jackets. This system works very well in small engines.

In the pump system a centrifugal pump driven by the engine forces the water through the system and maintains a constant and positive circulation. So long as the engine is running the pump must force a flow of water through the cooling system. The pump system is more expensive than the thermo-siphon.

The radiator member of the cooling unit, has a tank at the top and another at the bottom. The core is the section lying between the two tanks, which looks like a honeycomb. There are two different types of radiator cores, tubular and cellular. In the tubular type the water passes through the tubes and the air is drawn through the spaces between the tubes and the water flows through the spaces between the tubes.

In operation the water enters the tank at the top of the radiator, where it is baffled so that instead of flowing down one side of the core, it is distributed all over the cooling area. In the lower tank there is provided a means for receiving the water from all parts of the core.

Few car owners realize that the shape of the radiator has anything to do with the efficiency of the cooling system. It has, however, the high, narrow radiator, such as is used on racing cars, gives the water a greater distance to travel downward through the core and consequently more time to get rid of its heat, and all water is exposed to the fan draught. It used to happen often that too small a radiator was fitted in the ordinary car, so that overheating troubles developed, but in present day cars the radiators are generally entirely efficient for the work they have to do.

Now while it is necessary to cool the engine, as we explained in the first place, it is not good to cool it too much. There is a certain point of maximum efficiency and within the past two years engineers have been learning much as to the best method of maintaining the engine's temperature at just this point. The principal means of attaining this end is thermostatic control of the water's temperature. This control means the fitting in the water line of a device, which shuts off the flow of water until a certain temperature is reached, when it permits the circulation to proceed until the water is cooled enough, when the flow is again interrupted. A variation of this is found in the radiator shutters, which shut off the air current through the radiator, until the maximum safety point in temperature has been reached.

The cooling system demands little attention, but it should certainly have what it really requires. It should be cleaned once a year and incidentally this is the proper period to perform the operation. An excellent plan is to fill the cooling system with a solution of washing soda and water and run the engine for half an hour. After this drain out the soda-water and flush the system through with clear water three times. Now is the time also to renew the rubber hose connections and to test the fan belt for slippage.

NEWS AND GOSSIP IN AUTO CIRCLES

The new Liberty motorcycle for Uncle Sam has no battery for the lights. A constant current magneto, which keeps the voltage fairly even at all speeds, furnishes the current. During the day, when the lights are not needed, the magneto can be moved out of gear.

The English automobile magazine, "The Car," is coming out now in a "war-time edition, half size."

The Coombs Motor Company report plenty of activity in their neighborhood. Rumors come to us that J. P. Denby trucks, either.

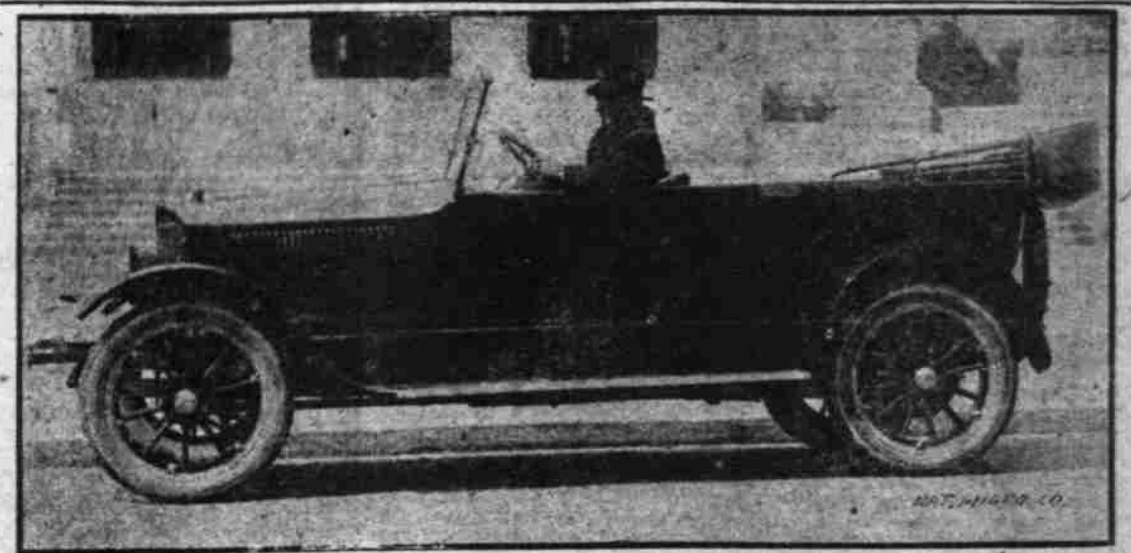
Freeman is helping them roll up rapidly their long list of satisfied customers.

Can anyone find a couple of good mechanics? Percy Rowe, of the Henderson-Rowe Auto Company, 1012 Fourteenth street northwest, has hung out the S. O. S. sign. Send him a couple and he'll fall on your neck with tears of joy.

Take a slant at this: Some time ago the Henderson Motor Car Company adopted a slogan for themselves of "A car a day." On February 12 they purchased in Philadelphia 100 Saxon cars. Today they have just thirty Saxons left. What are they going to do, slow down on the sales, or boost the limit?

And this doesn't count the sales of hood. Rumors come to us that J. P. Denby trucks, either.

The New Stanley Steam Car



This very latest type of Stanley steam car has all the beauty and lines of any other up-to-date car you see on the streets. The man at the wheel is M. E. Mills, of the Stanley Steam Car Sales Company.

DEFENSE COUNCIL URGES WIDE USE OF MOTOR TRUCKS

What is probably the first Government expression of policy recognizing the utility of the motor vehicle in relieving our transportation situation is an announcement just issued as follows:

"The Council of National Defense approves the widest possible use of the motor truck as a transportation agency, and requests that State councils of defense and other State authorities take all necessary steps to facilitate such means of transportation, removing any regulations that tend to restrict and discourage such use."

The highways transport committee of the Council of National Defense is working energetically to promote the more efficient use of trucks to take some of the burden off the congested railroads, particularly the transfer of freight within cities and the movement of short-haul freight by highway. These involve "store-door" deliveries of incoming railroad freight, haulage by motor express lines of shipments originating within short distances of cities, and the intercity movement of freight where hauls are not too long to be practicable.

Motor truck operators are greatly interested in the "return loads" bureau that are being established in Atlantic coast cities from Boston to Washington by the highways transport committee. The Connecticut State Council of Defense has created a system of bureaus operated by the chambers of commerce and war bureaus in the larger cities of that

State, where good results are being obtained in bringing together shippers who have loads to be hauled and owners of trucks who wish to obtain loads to carry back to their home cities after delivering loads in neighboring cities.

In New York city—the Merchants Association has been asked to establish a return loads bureau; the Jersey City chamber of commerce is ready to undertake the work for that city; and the Motor Truck Club of New Jersey has opened a bureau in Newark. Full details regarding the plan and how to establish such a bureau are contained in an illustrated pamphlet now being published by the highways transport committee, Munsey building, Washington, which will mail a copy to any one interested upon receipt of request.

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ONLY 30 OF THEM LEFT
The purpose of this announcement is to remind intending purchasers to place their orders immediately—prices advance April 10. Until that time the old price of \$995—delivered—will prevail.
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