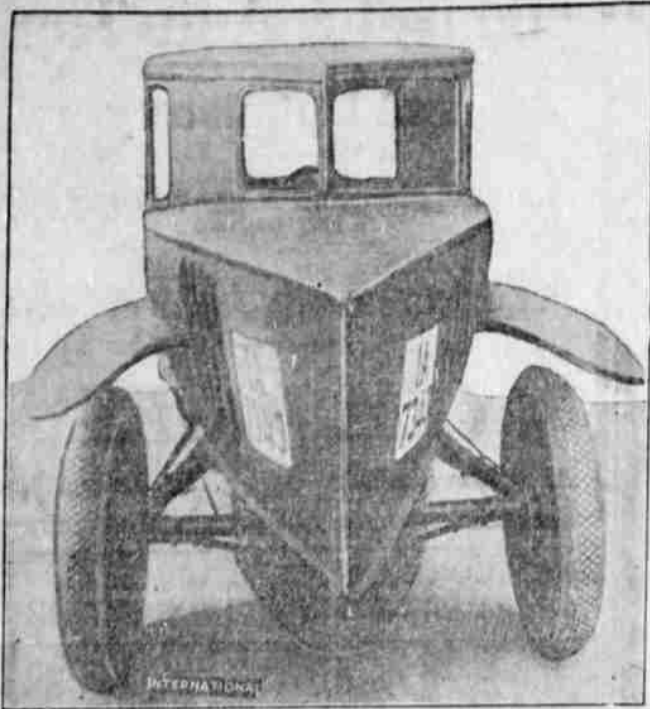


FINE EXAMPLE OF PUTTING CART BEFORE HORSE IN RUMPLER AUTO



New Motorcar With Smallest Head Resistance.

Here Rumpler, the well known German airplane constructor, has just pro-



View of Car From Above.

duced a new motorcar which he claims has the smallest possible head resistance of any car on the market. In or-

der to produce this car he took as a pattern for streamlining the chassis and body the shape assumed by rain-drops falling through the air. A rain-drop is forced into a perfect streamlined form in the air resistance. The motor and transmission form a unit that is mounted to swing about the rear axle, thus doing away with the propeller shaft and universal joints, and forming a very compact power plant. The motor, which is of the "Y" type, has six cylinders and is arranged in pairs. It is of the type used by Anzani, having one pair of cylinders vertical in the center of the "Y." The radiator is behind the motor, giving perfect cooling by means of a fan. The back of the auto resembles an airplane car and has a seat for the chauffeur in the bow. The chassis is made of a wide frame of pressed steel, shaped into a bowl, and it is closed in and streamlined on the bottom. This car, which is only a ten-horsepower affair, can, because of the slight resistance, make 75 miles an hour. The whole construction is a fine example of "putting the cart before the horse." It is a return to first principles of scientific interest. Note the rudimentary wings used as mud-guards.

GREASE USED IN SEVERE WEATHER

Has Distinct Drawbacks as Lubricant for Automobile During Winter Season.

GEARS OPERATE ENTIRELY DRY

When Used in Cups It Has Characteristic of Getting So Hard That Little Lubrication Gets to Bearing Surface.

For several years past no wise motorist has used grease as a lubricant for his transmission, yet many car owners who ought to know better employ this heavier lubricant. Grease cannot flow to the bearing surfaces and in the transmission the gears cut a clean path through the grease when it is cold and run practically unlubricated thereafter. In addition, grease has the unfortunate characteristic of carrying dirt and foreign matter that it may pick up. It has distinct drawbacks as a lubricant in any location, especially in cold weather, when it ought never to be used. In winter the grease is almost certain to become packed against the walls of any case in which it is used, while the gears operate entirely dry.

When grease is used in cups, it has the characteristic of getting hard, so that the cup cannot be turned down properly, and little lubrication gets to the bearing surface for which it is intended.

On practically all cars of any but the most recent vintage grease cups are fitted at various locations. If the owner desires to substitute oil as a lubricant for the grease he has previously used to replenish the cups every day. In many cases this would be worth the increased labor.

Wick Feed Devices.
On the other hand, it may be possible to replace the grease cups with large oil cups having gradual tapers. Some of the newer car models have been designed with central lubricating points and with wick oiling devices, which require replenishment only once or twice a season. At any rate the substitution of oil for grease for almost any lubrication service will be a benefit to the parts affected.
Naturally different parts of the mechanism require different lubricants, that is to say, different grades of oil. For the gears, the transmission, differential and rear axle, a heavy oil will be the most satisfactory lubricant. The last year or so has seen a number of extremely ingenious oil cups of-

ferred to the motoring public, some of them embodying a gradual feed, achieved by means of constricted passages that allow the oil to leak out only by degrees. Others employ what is known as wick feed, in which the oil is carried up in a wick and fed gradually to the part needing lubrication. For such places as the shackle bolts of the springs, the cross shafts of the brakes, the universal joints, in some types this makes a satisfactory arrangement.

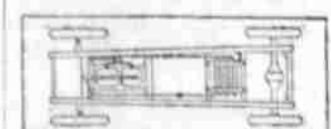
Use of Graphite.
It has always been the custom to lubricate universal joints by means of grease or graphite, because there is great difficulty in keeping oil in the joint. This part moves with great rapidity when the mechanism is in operation and needs the most effective lubrication. Recently it has been found possible to lubricate the universals by means of oil fed through wicks. In many cases this change would have to be the result of altered design, which the manufacturer is loath to do because of the cost.
Wick feed has the double advantage of being economical as well as efficient. In operation the oil travels up the wick by capillary attraction, just as it does up a lamp-wick, and is discharged upon the surface requiring lubrication. The oil spreads itself all over the whole surface, and really this method is the next best thing to having the parts run in oil. The wick oil cup does not require frequent filling and another advantage of the system is that dirt or foreign matter, even if it is present in the oil, cannot make its way to the bearing surface.

NEW ANTI-FREEZING DEVICE

Apparatus May Be Attached to an Automobile Without Interference With Running.

The Scientific American in illustrating and describing an anti-freezing device, the invention of F. Wendling of Alberta, Canada, says:

"The invention relates to automobiles and other vehicles using water-cooled motors and particularly to anti-freezing devices in connection with



A Top Plan View of Chassis Showing Condensation Tank and Condenser Coil at Rear.
The radiators of such motors, and has for its object the prevention of loss by volatilization of the volatile portions of anti-freezing solutions commonly used. The result is accomplished by an apparatus capable of ready attachment to an automobile without interference with the normal operation thereof.

WARNING TO DRIVER BY FLASH OF LIGHT

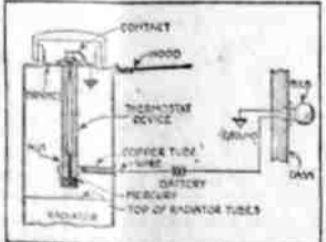
Homemade and Effective Hot-Motor Alarm for Autos.

Any Man With a Little Mechanical Ability Can Construct Device—Main Tube of Thermostat Is Made of Bakelite.

Below is an illustration that shows a homemade and very effective hot-motor alarm. Any car owner with a little mechanical ability can easily build one. The sketch shows a section of the radiator at the top of the water chamber. The main tube of the thermostat device is made of bakelite or one of the impregnated bakelite fibers that is water and steam proof. The top of this tube is threaded into a bracket which is in turn soldered into the neck of the radiator. The lower end of the tube is also threaded into the mercury chamber which is made of fiber. This chamber is locked and made leak-proof with a nut. At the upper end of the tube is the contact which is provided with an extension contact of brass and which is also led out through a brass ribbon

and soldered to the supporting bracket, thus making a ground connection on the car.

After the device is assembled the copper tube is soldered in place and a wire led out through it to a small lamp on the dash. The circuit is



When the Engine Becomes Overheated, the Driver is Warned by the Flash of the Dashboard Lamp.

made through the battery circuit on the car as shown. The mercury chamber is threaded onto the thermostat tube so that the device can be adjusted.
This is accomplished by submerging it in boiling water and then setting it just a trifle short of making the circuit. In other words, when the water in the radiator reaches the boiling temperature, the motor is dangerous-

ly overheated and needs attention. At that point the mercury is so expanded that it rises in the tube and completes the circuit, thus lighting the lamp.—Popular Science Monthly.

AUTOMOBILE HINTS

Automobiles in Wisconsin represent an investment of \$138,831,000.
The American farmer is considered the keenest buyer of automobiles.
Gasoline costs 88 centavos (44 cents) a gallon in Mexico.
The membership of the Automobile association in London totals more than 1,000.
Automotive exports from the United States last year exceeded \$30,000,000, going to 114 countries.
A new strain automobile is to make its appearance on the market in a short time to sell at about \$1,000.
Ontario leads all other provinces in Canada in the registration of automobiles; Saskatchewan ranks second.



Facts you should know when you buy a car

The question of greatest importance is not what you will be allowed for your old car but the price you pay for the new car and the value received.

You are money out if allowed \$100 more for your old car, yet have to pay a \$150 higher list price for a new car when the comparative value is not there.

A purchaser's loss is only postponed when trading allowances are made above a used car's real value. The deal that may appear most satisfactory to you in the beginning may prove to be the most expensive in the end.

No one receives anything gratuitously in this world—don't be misled by false allowances.

We believe that any sales policy which encourages the giving of fictitious values for used cars is an injustice to the public. We wish to establish definitely the fact that the Buick Motor Company has never followed this policy—rather has always based the price of its product upon actual costs and when costs came down correspondingly reduced the prices of its cars to the public without any camouflage whatsoever.

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22-Four-36 Three Passenger Coupe	1295
22-Four-37 Five Passenger Sedan	1395

BUICK SIXES

22-Six-44 Three Passenger Roadster	\$1365
22-Six-45 Five Passenger Touring	1395
22-Six-46 Three Passenger Coupe	1885
22-Six-47 Five Passenger Sedan	2165
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