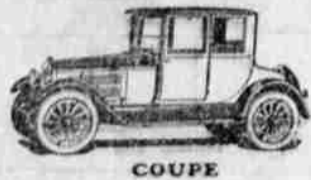


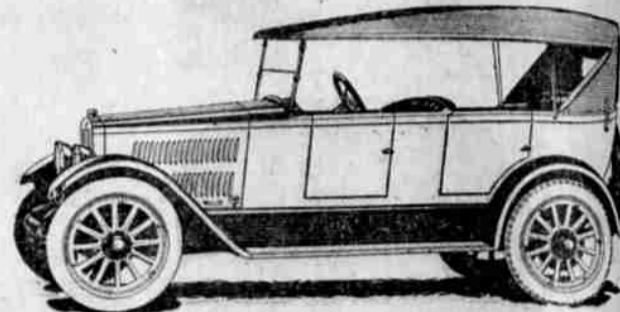
# ECONOMY with DISTINCTION

**T**HE day of true economy is dawning. The hour of the modern light weight, high quality, good looking, well balanced, sensible and economical Automobile is here. "We have it"

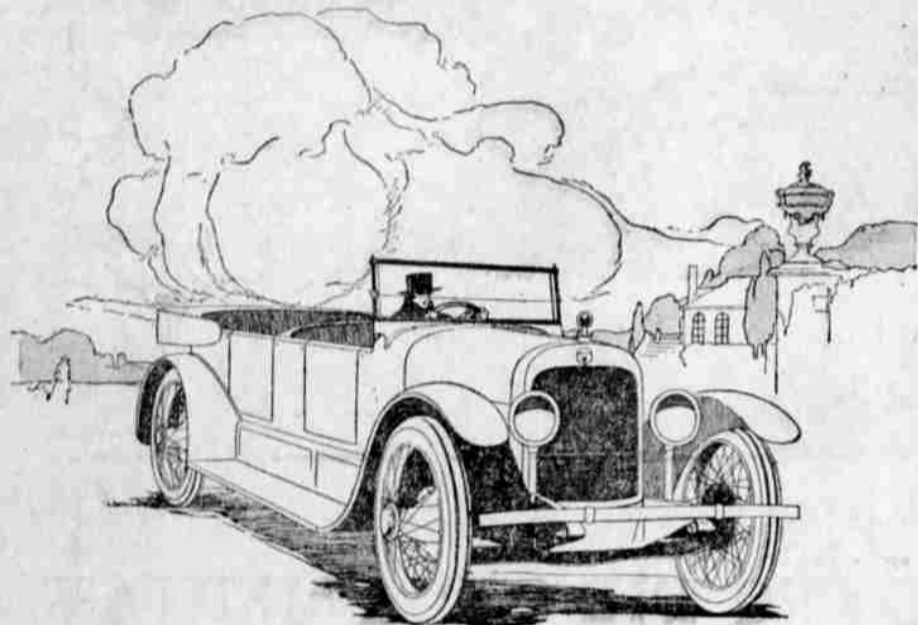


COUPE

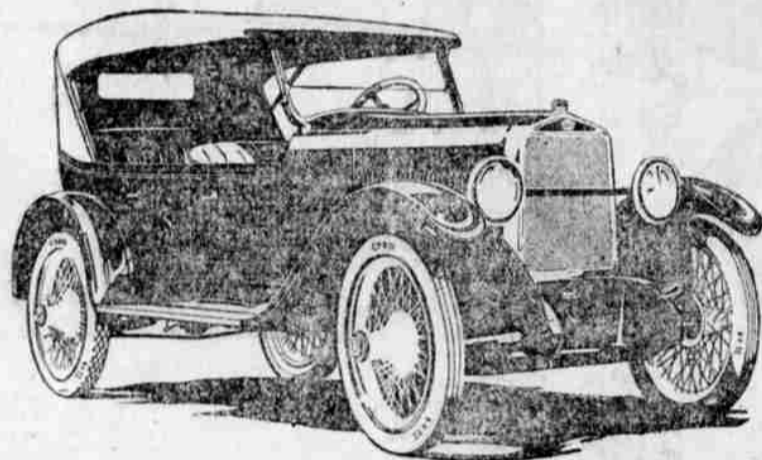
Mitchell  
Oakland  
Jordan



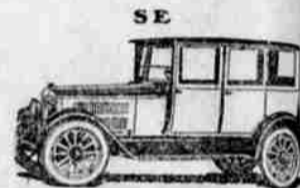
THE MITCHELL



THE JORDAN



THE OAKLAND SPORT



SE

## J. F. BARKER & CO.

### PLAN TO BLACKEN FITTINGS

Wash in Solution of Acetate of Lead, Hydro-Sulphate of Soda and Water—Then Lacquer.

The motor car owner who takes care of his own vehicle, frequently has occasion to blacken brass or bronze fittings that are no longer ornamental in their original state. By washing the part to be operated upon in the following solution the black will "take." Acetate of lead, four ounces; hydro-sulphate of soda, four ounces, and water, two quarts. The parts are placed in this solution, which must be hot, until they have assumed the desired hue, when they are dried and given a coat of cold lacquer.

### AUTOMOBILE NEWS

Never overwork a blowout patch—it ruins tires.

A paste of shellac and graphite will stop leaks at petcocks or spark plugs.

### TEST FOR INDUCTION COIL

Simple Way to Find Out if the Secondary Winding is in Good Condition.

To test the secondary winding of an induction coil connect a voltmeter and a six-volt storage battery to the secondary terminals. The voltmeter should be connected in series, that is, break the wire leading from battery to coil and attach each terminal of the voltmeter to an end of the wire that is broken. If the current will not flow from the battery the winding is open. If the winding is in good condition the voltmeter will show a reading of half the storage battery voltage.

### PREVENT MISSES OF ENGINE

Do Not Neglect Manifold, and if Spark Plug is Not Tight Trouble Will Follow.

Don't neglect your manifold. If you have a spark plug which is not screwed tight, or a petcock partly open, or a gasket which is not absolutely airtight, your engine will misfire badly when you try to make it pull at slow speed on a hill. To find air leaks squirt a little oil around the plug or gasket and if bubbles show up you have a leak.

Tires will produce twice the mileage on cars driven 15 miles an hour as upon cars driven 30 miles an hour.

The word "limousine" is named after the head covering in the form of a colf or hood, with a cape attached, worn by women around the city of Limoges, France, the capital of the old province of Limousin.

Universals do require greasing and it is a good idea to grease the joints every two months or so.

The production of motor vehicles in the United States this year, it is said, will exceed 1,700,000 cars.



**YOU** will know Vacuum Cup Cord Tires by their distinctive jet black tread—the tread that is *guaranteed* not to skid on wet, oil-treacherous pavements.

Their generous oversize, carefully inspected construction and highest quality materials warrant their being *guaranteed*—per warranty tag attached to each casing—for 9,000 miles.

Safe, wear-resisting, attractive, reasonably priced.

C. A. Lockwood Motor Co.  
Authorized Ford Dealers.

### HEATING FRONT SEAT OF LITTLE MACHINES

Radiator Designed for Runabouts and Roadsters.

Particularly Adapted for Cars That Afford No Protection for Driver—Assures Comfortable Driving in Winter.

Most floor-heaters for automobiles seem to be designed for the rear compartment and not for the front seat. The heater shown in the illustration is designed for runabouts, roadsters, and particularly the type of automobile that affords no protection for the driver against cold, such as taxicabs, town cars and limousines. The radiator is simply an ordinary floor radiator such as is used in hot-air systems of house-heating. The adjustable vane type with the ribbed foot-control knob is of course the most desirable, as it will allow the driver to permit as little or as much heat as he desires to come through.

The size of the radiator used depends on the amount of clear floor space. As the illustration indicates, a hole is cut through the slanting part of the floor and the radiator set in and



If You Equip the Driving Compartment of Your Automobile With a Heater Now, There Won't Be Any Cold Feet This Winter.

screwed down. It will be found that a surprising amount of heat comes through when the radiator is wide open. A heater of this sort assures much more comfortable driving in an open car when the winter weather is severe.—Frank W. Harth, in Popular Science Monthly.

### AUTOMOBILE HINTS

The motorist who continually takes chances usually finishes his ride in an ambulance bound for a hospital.

Because of the narrow streets in many of the cities and towns of Japan, the motorcycle has become far more popular in the Orient than the automobile.

### I'm Riding on Universal Tire Fillers

No worry, no punctures, no blow outs. I get double miles out of my tires, and comfort, too. Take my tip—install Universal Fillers to-day.

FILLER STATION, 324 w. Cass  
Roseburg, Ore  
CARL W. OHMAN



## HALL & SON GARAGE

General Auto Repairing and Accessories

631 Winchester Street  
Phone 338

If the engine shows too great a tendency to overheat, the radiator is probably clogged and should be cleaned out thoroughly with hot water and washing soda.

Don't neglect small cuts. They often extend farther than you think and wet get in, the fabric and a blowout follows. Wash your tires from time to time.

Phone **TAXI 31**

**PROMPT SERVICE DAY OR NIGHT**

### CARBON MONOXID WORKS QUICKLY

Open Season for Fatalities Resulting From Inhaling Exhaust Gas of Engines.

### GRADUAL INCREASE IN DEATHS

Running of Motorcar in Closed Garage for Testing or Warming Up is Dangerous Practice, According to Scientists.

With the onset of cold weather comes the open season for fatalities resulting from carbon monoxide poisoning by inhalation of the exhaust gas of automobile engines running in small, closed garages, says the Journal of the American Medical Association. The last few years have seen a gradual increase in deaths resulting from this peculiar combination of circumstances. Cases have been reported which involve inhalation of gas from bathroom heaters as well as from both gasoline launchers and automobile engines.

Persons Quickly Overcome.

The gas responsible, carbon monoxide, is one which quickly overcomes persons exposed to it above certain concentrations, so that it has been important to determine the limits necessary to cause fatality. In an endeavor to determine this necessary concentration and exposure, Prof. Yandell Henderson, with the aid of a number of colleagues, carried on some studies

preliminary to the problems of ventilation involved in the proposed vehicular tunnel under the Hudson river. Among other conclusions reached by the experimenters, the most important was the determination that, when the time of exposure in hours multiplied by the concentration of carbon monoxide in parts per 10,000 of air equals three, there is no perceptible physiological effect. When it equals six, there is just a perceptible effect; when it equals nine, headache and nausea are induced; when it equals 15 or more, the conditions are dangerous to life. If a motorcar should give off one cubic foot of carbon monoxide per minute in a closed room 10 by 10 by 20 feet, the atmosphere would reach the dangerous concentration of 15 parts in 10,000 in three minutes.

**Dangerous Procedure.**

Experiments has shown that the running of a motorcar in a closed garage for testing or warming up is a dangerous procedure. Scientific evidence reveals the reason for the danger and the narrow limits of safety surrounding the inexperienced motorist who indulges in this hazardous performance.

**WATCH STEERING MECHANISM**

Car Whose Direction Cannot Be Controlled is Dangerous—Make Frequent Inspections.

Don't neglect your steering mechanism. A car whose direction cannot be controlled is dangerous. While adjusting mechanism it is best to turn wheels to extreme right. Parts are worn less at this position than when straight ahead. Never turn the steering wheel while the car is standing still. This puts severe strain on all steering gear parts and is hard on tires. Careful drivers will inspect frequently.