

## GAS PROBLEM IS ONE THAT GROWS

Fluid Distilled Today Contains Much That Used to Be Known as Kerosene.

### ENGINEERING SHOWS RESULTS

Intake Manifolds Are Being Designed to Give Just Right Amount of Heat to Vaporize Last Drop of Gasoline.

Every motor car manufacturer is offering in his 1922 product what he considers an excellent device for getting the greatest possible power out of the kind of gas a car has without these days.

The problem is one which has grown with the motor industry. The first few "horseless carriages" ran on a fluid that was as thick as molasses under ordinary atmospheric conditions that it was readily ignitable. Now that the use of cars has increased to the extent that we have forgotten the "horseless carriage" and speak of the "motor car," the tremendous increase in the demand for gasoline must be met by cutting lower into the grade oil.

Gasoline distilled today contains much that was known as kerosene a few years ago. It is an indication of the progress made in cars that they run over the hills on the road and gutter as little as they do on city streets. That is, however, "more miles a gallon" engineering, showing results.

Proper combustion, in addition to its results in acceleration and mileage, affects lubrication, in case unburned raw gasoline finds its way into the crank case thin the oil.

#### A Worthy Ambition.

The ambition of the modern motor engineer is to introduce into the combustion chamber the most rapidly burning fuel possible. When the fuel enters the chamber the external surface of the drop is exposed to the spark. It is necessary to evaporate the drops into a vapor before combustion is complete. If fuel can be reduced to a true gas, that is still better. Even with the best carburetor now obtainable the gasoline is only partly vaporized.

It would be simple to apply enough heat to make the fluid into a true gas, but another difficulty enters here. As the gas is heated it expands, it becomes "thinner," there is less power in a given volume, the combustion chamber is not getting as many heat units as it should.

Intake manifolds are being designed now to give just the right amount of heat to vaporize the last drop of gasoline without overheating the vapor. Heat usually is applied only to the liquid fuel. One of the two main methods used permits the liquid to touch a hot plate over which the vaporized fuel passes without coming into contact. Another series of hot spot devices uses a settling chamber into which the heavier particles drop to be heated.

#### Best With Difficulties.

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Applications of these general principles in these years' cars include a combustion manifold and carburetor with dampers for regulating the supply of heat, a corrugated interior surface of a manifold heated by the exhaust, an intake passage surrounded almost entirely by the exhaust, a manifold arrangement controlled by a damper which shuts exhaust heat around the intake, thermostatic carburetor control, a "fluctuator" which heats the gasoline and air from the carburetor and makes it enter the combustion chamber as a dry gas, and many other devices.

#### Famous Rocking Stone.

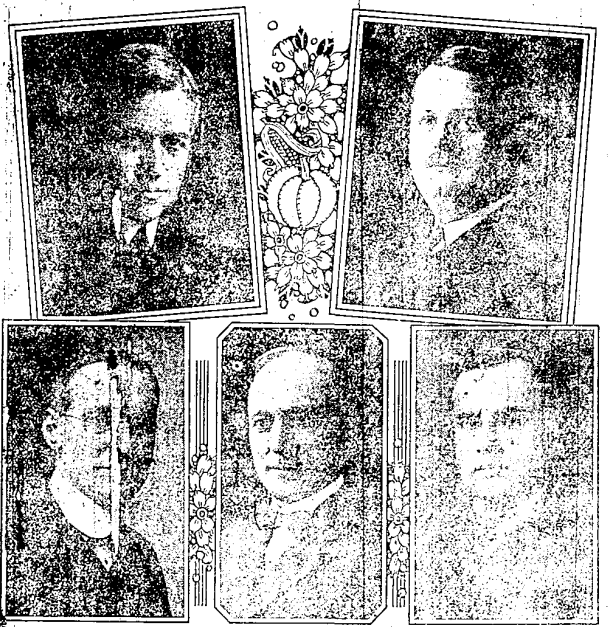
Of the rocking stone, just west of the buffalo range in Bronx park, New York city, tradition says that sachems and medicine men of the various Indian tribes built their council fires about this colossal cube of pinkish granite.

#### Coulter's Stand That.

When I was a youngster we lived on a farm, and as my parents were devout church members the preachers and their families were always welcome to come at any time. I had quite a case on the preacher's youngest son, a lad of ten years. One day they all drove into the yard just as dinner was ready. Well, my brothers and I had to "wait" while the preacher's family ate dinner with the older folks. And I hungrily watched my young love eat six pieces of chicken—and there was none left for us. That cured me.—Exchange.

Bring your printing to Printers.

## STATE FAIR EXECUTIVE BODY



Michigan State Fair Executive Committee—Upper left, Charles T. Prescott, Tawas City, upper right, Thomas E. Newton, Detroit; below, left to right, Clark L. Brody, Lansing, John S. Haggerty, Detroit, chairman, and Oscar Webber, Detroit.

Heading the executive committee of the Michigan State Fair, which has general charge of the business of the exposition between regular meetings of the board of managers, is John S. Haggerty.

Chairman Haggerty, a former president of the Michigan Agricultural Society, has been a member of the fair board for years. When the fair came under the jurisdiction of the state, Mr. Haggerty was one of the first men named to the board by the governor.

Oscar Webber, prominent Detroit merchant, Thomas E. Newton, a former fair president and well known

packer, Charles T. Prescott, Tawas City, and Clark L. Brody of Lansing, are associated with Mr. Haggerty on the executive committee.

The function of this committee is to advise and counsel with G. W. Dickinson, secretary-manager of the state fair, and much of the fair's success can be attributed to the support these men have given the fair executive.

Mr. Haggerty was president from 1916 until 1921, succeeding D. D. Allen of Flint, in that capacity. Mr. Webber's appointment to the board in 1921 for four years is attributed to his ability as a shrewd business man and the fact he is one of Michigan's

best known pure bred breeders. He heads the Michigan Institute, which has been an interesting part of the annual exposition since its origin.

In 1911 and 1912, Thomas E. Newton was president of the fair. Mr. Newton is the member in charge of the new exhibition. Charles T. Prescott was elected to the fair board in 1918. Governor Greenback appointed him again in 1921 for three years. He is in charge of the horse department.

Clark L. Brody, manager of the Michigan farm bureau, is serving a two-year term on the fair board. He will head the agricultural department this year.

### YOU AUTO KNOW

That a battery is never as efficient, in fact, as it is in a new one, is a common knowledge. In the first place, the battery itself loses some of its power when the temperature is lowered and fails to deliver as much current as it was when fully charged, as it will in some weather conditions. In addition to this, it is more difficult for the self-starter to turn the engine over when the battery is old and an extra strain is therefore placed on the battery. Finally, cold weather prospects a shorter life and a greater loss of light.

Another factor which must be taken into consideration is the regular attention to the "heart" of the car during the winter and particularly in the early spring when the weather is just beginning to show itself. It is more difficult to get the water level in the cells are always advisable and at least once a year the entire battery should be taken apart and the sediment from the plates cleaned out. If this is done in the spring, the engine will start during the summer will fully carry the battery through the succeeding winter without trouble.

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### SERVING TABLE FOR AN AUTOMOBILE



August Bryson of Chicago has just invented an automobile serving table, which will greatly aid in the enjoyment of motorists, and which not in use can be utilized by picnicers. The table fits on the side of the car and knock or refreshments can be served, even when not in use it can be folded and occupies very little room.

The photograph shows one of the tables being used on an automobile.

## AUTOMOBILE GOSSIP

A motorist should be as clever in backing a car as he is when driving forward.

Two-thirds of all breakdowns are caused by improper or inefficient lubrication.

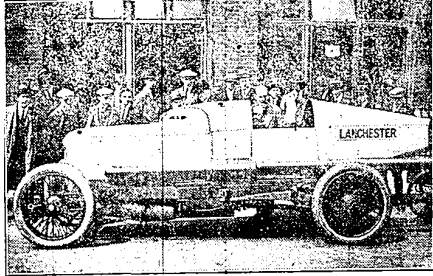
A slipping clutch is not only a strain on the engine, but causes waste of power and fuel.

Before inserting a spark plug, apply kerosine in powdered form to the threads. The plug can thus be removed easily, no matter how long they have been in the cylinders.

The knock produced by a loose piston pin is considerably lighter than a crank shaft knock and a most noticeable when the engine is running idle with the throttle nearly closed.

A brake has been invented to operate on all four wheels of an automobile. The application of the brakes is controlled by the car in half the usual distance and prevent skidding.

### NOVEL ENGLISH RACING AUTOMOBILE



The new Lanchester racing car, which is entered in many of the English auto classes. The driver of the machine is entirely covered in, the machine being constructed along modern and improved plans. A feature of the construction is the series of boxes running from the engine to the tail of the car, through which the hot air is carried off.

# TOURING CAR

## 348

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