

RACING BRINGS OUT NEW IDEAS FOR CARS

Advantage of Streamline
Body Is Illustrated.

Engines Made Better

Pointers on Manufacture of Re-
liable Pneumatic Tires Also
Are Obtained.

Ever since the earliest days of auto-
mobile racing, when it was almost as
much a gamble whether a car
would actually start in a race as was
its ability to finish, the designers
and manufacturers of all kinds of
automotive engines and vehicles have
been learning valuable lessons from
the contests on the speedways of the
world.

Among other things that racing has
taught the automotive engineers are
the following:

1. The advantage of the streamline
body.
2. How to make reliable pneumatic
tires.
3. To develop demountable rims and de-
tachable wheels.
4. To use wire wheels to the best ad-
vantage.
5. How to make economical carburetors.
These lessons invaluable.
6. The importance of correct distribu-
tion of weight.
7. How to build reliable steering mech-
anism.
8. That efficient cooling and lubrica-
tion are essential.
9. That transmissions and brakes must
be efficient.
10. The value of alloy steels.
11. The possibilities of aluminum and
its alloys.
12. The value of good roads.

These, together with the countless
minor lessons taught by auto racing,
have been invaluable in building up
the third largest industry in the
United States.

As far back as 1895—the year El-
wood Hayes in his first car was
held up for speeding on a Chicago
boulevard—there were auto races, al-
though there were no speedways un-
til a good many years later. And one
year earlier—1894—there was an un-
official contest from Paris to Rouen,
in which a Panhard and a Peugeot
attained the record rate of speed.

France was the first nation to take
up racing in earnest.

Following is the record of some of
the earlier efforts in the country:

In 1895, over a distance of 79.2 miles,
Panhard, with 24-horsepower engine, won
with an average speed of 11.9 miles per
hour.

In 1896, covering 144.0 miles, Panhard,
with 16-horsepower engine, won with an
average speed of 21.9 miles per hour.

In 1897, over a 740.2-mile course, Ford,
with 16-horsepower engine, won with an
average of 52 miles per hour.

In 1902 at Donnan, Iowa, with a flying
start, traveled one mile at the rate of
78.2 miles per hour.

Racing passed out from the experi-
mental stage and car makers learned
that a combination of minimum
horsepower and maximum vehicle was
its limitations. Then came the Gordon
Bennett races from 1900 to 1905, the
trophy given by James Gordon Ben-
nett of the New York Herald.

Makers Taught Many Things.

One of the lessons brought home
here was the fact that the develop-
ment of pneumatic tires had not kept
pace with improvements of a me-
chanical nature. Other weaknesses
were also gradually eliminated. More
attention was given to transmission
design, frames were strengthened to
withstand the stresses imposed by
fast work on rough roads and
troubles with steering gears and front
axles were gradually overcome. Rac-
ing was proving its worth to the
manufacturer who was willing to
learn.

In 1912 the Coupe de l'Automobile, run
off simultaneously with the Grand
Prix in France, furnished the first
demonstration of a limited maximum
engine capacity. Only cars with 3-
liter, or 183 cubic inch piston dis-
placement, were allowed to compete,
and the feature of the race was that
there was little difference between the
winning times in this race and in the
Grand Prix, where all the cars were
much bigger. This is of peculiar in-
terest, inasmuch as the 183-inch
measurements go into effect for
American races beginning with this
year's Indianapolis classic.

By 1914 demountable wire wheels
had displaced wood for racing and
streamlined bodies of extreme type
were used universally. A better un-
derstanding of the relation of un-
sprung weight to the car as a unit had
been arrived at and the racing ma-
chine had assumed the general ap-
pearance it possesses today.

First 24-Hour Performance.

Reliability, endurance and economy
of various kinds formed Eng-
land's first attempts in the racing
line, but with the construction of the
famous Brooklands speedway, the
United Kingdom began to play a
prominent part in the yearly racing
calendar. This was also the world's
first real speedway. It is (or was, for
it was partially destroyed during the
war) a cement track, with a circuit of
2.53 miles in length, and a finishing
straightaway .625 mile long.

A few weeks after the completion
of this track a six-cylinder Napier
made the first 24-hour performance
on record, S. F. Edge remaining at the
wheel throughout the long grind. In
December, 1907, the first electrical
timing device ever made was installed
at the Brooklands track.

In 1908 Henry in an 85-horsepower
Benz made 127.44 miles an hour
from a flying start, his time being
taken for half a mile. A small Clem-
ent Talbot car established a new re-
cord on the Brooklands track in 1913,
traveling 102 miles 1470 yards in an
hour. The big Benz, formerly piloted
by Hemery, crowded two miles into
a minute for the first time on a speed-
way in 1914 on Brooklands course,
although this time had already been
made on a straightaway in the United
States.

The New York to Rochester endur-
ance run in 1901 taught United States
auto manufacturers a world of things
as many faults in design and inherent
weaknesses were disclosed. Engines
and transmission had been developed
to a higher degree than had the run-
ning gear.

7.5 Miles Hour Once Record.

Other and later tests were conduct-
ed and results improved steadily as
the lessons of the road and track
were taken to heart by car manufac-
turers. It was not until 1908 that an
American-made car won a notable
victory. In that year a Locomobile,
piloted by Robertson, won the Van-
derbilt, averaging 64.3 miles per
hour.

After all, it has been on the speed-
way and on straightaway tests like
Daytona that the real records have
been made and the real trials fur-
nished American designs. Most nota-
ble of all achievements in the speed
line was Ralph De Palma's 1919 re-
cord of 150 miles an hour made at
Daytona Beach—a far cry from the
day when a Duryea made 7.5 miles an
hour over a 54-mile course at Chicago
in 1895.

Indianapolis, Sheepshead Bay and

DEATH VALLEY IS REAL DANGER SPOT

COTTON FOR TIRES LACKING

Portage Tire Chief Warns of Im-
pending Shortage.

"In the kingdom of rubber, cotton
is king, and in Akron, capital of the
rubber industry, interest centers not
around rubber but cotton," says John
W. Maguire, vice-president and gen-
eral manager for Portage tires.

"Proving himself a dicker monarch,
King Cotton, who so long has supplied
his fluffy strands for the making of
wearing apparel, has, as the result
of the great growth of the tire in-
dustry, turned his favor in that di-
rection. Through the increasing de-
mands for cotton fabrics for tires,
manufacture of hosiery, knitted un-
derwear and clothing are warning of
a possible shortage in their products.

"In the tire industry the demand
for long staple cotton fabric has be-
come a subject for deep concern. It
is not generally realized that cotton
is as necessary in the manufacture of
tires as rubber. An idea of the de-
mand for cotton fabrics by tire man-
ufacturers may be got from the fact

that region it is an Essex which, by
its light weight, high power and re-
liability, can make the trip more safe-
ly than any automobile I know of."

The latest achievement of the motor
car was made when the extensive
Gobi desert of 3500 miles was trav-
ersed in China. The trip was made by
George Moskovski, formerly an of-
ficer in the Polish army, in a touring
car.

AUTO TRUCKS ARE HIT HARD

California Chicken Center Puts Up
License Scale.

PETALUMA, Cal., March 20.—The
Marin county board of supervisors
has passed an ordinance providing
for annual license of \$50 per ton on
all auto trucks over two tons op-
erating on the state highway and on all
roads in the county.

The ordinance will affect Petaluma
and Sonoma county dealers, who op-
erate trucks for the purpose of de-
livering feed, lumber and materials
to the ranchers residing adjacent to
this city and whose ranches are in
Marin county.

There are more than 50 trucks
delivering goods daily in Marin
county, and the owners will have to
take out the license and, therefore,
make an added charge for goods
brought here and delivered out of
the county.

The scale of license will be as

LOS ANGELES, March 20.—Don't
dare Death valley without a good
heart, sound lungs and a hankering
for genuine thrills. That is the sage
advice of J. H. Cook, "The Dean of
the Desert," who has just safely re-

turned with an Essex car, sent out to
investigate the feasibility of the
Death valley trip for motorist travel.

"I have spent 20 years in that
dreaded region," said the Dean, "and
I know the roads, trails and water
holes so thoroughly that I realize the
danger of going into the sand dunes
and rock country without a proper
equipment."

Many Fail to Return.

"That is why Marion Grosse never
came back, and many another good
man has never heard of again. To
give an idea of how little traveled
that region is, let me say that for ten
days after leaving Barstow we never
passed an automobile. It seems
strange that within 300 miles of a
large city there could be any district
where we could drive all day for ten
days without passing a car, but that
was the case on this investigation.

That, however, is the very reason why
I was authorized to take an Essex car.
During the past 18 months the
United States department of the In-
terior has thoroughly sign-posted
most of the main routes east and west
of Death valley.

The state signs on the floor of
Death valley have undoubtedly saved
many a life.

"The necessity for water is at once
apparent when it is realized that the
government records kept by Al Den-
ton at Furnace creek ranch show only
an inch as the average rainfall in
Death valley, and also that the
summer temperatures are as high as
140 degrees in the shade.

Maps Not Accurate.

"It is unfortunate that the existing
maps of Death valley region are not
accurate and complete in showing the
roads, trails and water holes. If ever
there was a situation in the south-
west where an accurate map is neces-
sary, that is the very place, in spite
of the fact (or rather because of the
fact) that there is so little travel.

Probably that was the reason why
Marion Grosse last July never re-
turned to Shoshone. I talked with
"Doc" Patriska, the last man who
saw Grosse alive, and he believes that
Grosse died while trying to get back
from the floor of Death valley to his
place at Shoshone.

If ever there was a car capable of
making a thorough investigation of

follows: Three-ton trucks, \$50 a
year; four-ton, \$100, and five-ton,
\$150 a year.

"Third Degree" for Finish.

It's just a detail, of course, but it
shows the care taken in building the

modern fine automobile—the "third
degree" given every Essex body when
it comes from the paint shop. The

sunlight pouring through a broad ex-
panse of windows is not enough and
an electric torch is used to reveal any
hidden blemishes. If any are found
the body is returned to be refinished,
car comes from the final tune to the
body is inspected again when the
shipping dock.

Grace and color and line to a
rare degree have lifted it out of
the commonplace into the un-
usual.

Comfort, and performance
and reliability have made the
Jordan the choice of men who
know motor cars.

Here then, is a car high
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balanced and rattle-proof, that
will honestly retain these char-
acteristics.

It is quiet—as a car of charac-
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with it an atmosphere which is
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MITCHELL, LEWIS & STAVELAND CO.

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