

EASY ENOUGH IF YOU
KNOW WHAT TO DOBut Many New Motorists Do
Not, So Here's Advice.

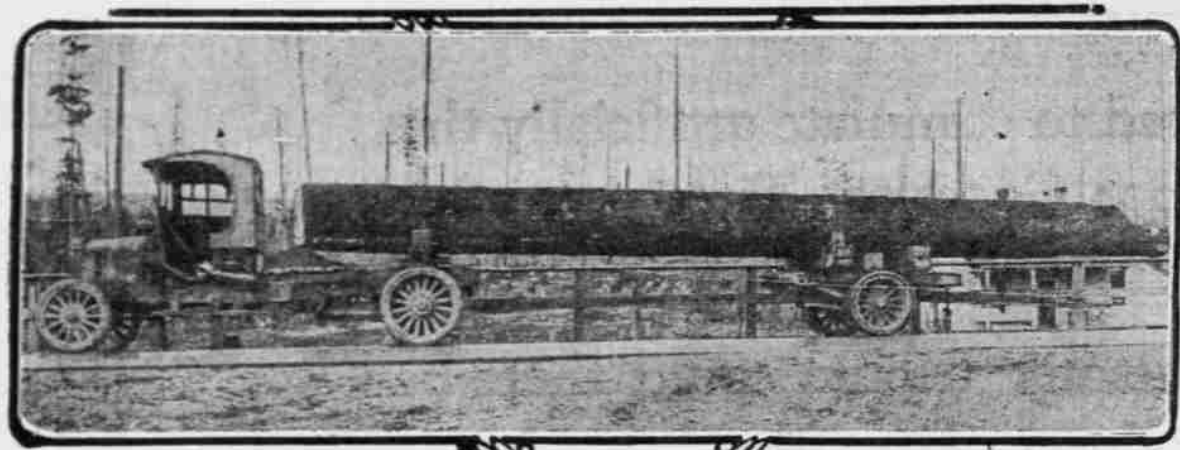
HINTS FOR EMERGENCIES

Going Into Second or Low Gear in
Descending Hills Will Take
Heavy Strain Off Brakes.Thousands of motorists this year will
drive from their accustomed and
familiar territory to strange places,
where the topographical conditions are
unfamiliar to them, and where they
may encounter roads and road condi-
tions never before met. Some adviceEspe hill, about two miles out of Le-
banon, as the cut is narrow and cars
cannot pass."Take the lower grade on the left
through the cut which has been gravel-
led. From Espe hill to Nallpee the
road is in good condition, except over
"hansel Change hill blasting is being
done to secure rock for rip-rapping.""From Nallpee to Holcomb the road
is rough from grading operations in
preparation for concrete pavement."
"From Holcomb to the intersection of the
Lilly-Wheaton road one mile east of
Menlo, the road is rough from grading
operations in preparing the roadbed for
concrete pavement.""As the Ocean Beach highway from
Menlo to Giesey's crossing has been
temporarily closed owing to concrete
paving being laid, motorists should look
for detour signs and leave the highway
at the intersection of the Lilly-Wheat-
on road and connect with the highway
again at East Raymond. Drive slowly
over this road, as the roadbed is nar-
row and there are many sharp curves.
There are three bad crossings on this
route. Watch for them.""From East Raymond to Raymond
the road is in fair condition."
"From Raymond to South Bend the
road is in good condition except in Ray-
mond, where streets are being repaired."
"From South Bend to the Palix river
the road is in good condition. Auto-
lists should drive slow over this section,
as there are many sharp curves with ob-
structions and heavy grades."
"From the Palix river to the Nema

HIGHWAYS NATIONAL NEED

GOODRICH RUBBER OFFICIAL
EMPHASIZES IMPORTANCE.Stimulus of Motor Truck Transpor-
tation to Build Up Communities
and Whole States."Improved highways of a permanent
type, providing motor express and pas-
senger transportation facilities, spell
opportunity today to the city which in-
tends to lay the foundation for a
healthy permanent future growth," as-
serts W. O. Rutherford, vice-president
of the B. F. Goodrich Rubber com-
pany."If we admit that hope lies in a more
even distribution of the population
over the acres within a city's sphere
of influence we are committed to ar-
ranging facilities to permit that ad-
justment to take place in a natural
way.""Improved highways that make possi-
ble rapid motor transportation 365
days out of every year will permit and
stimulate our people to move out onto
the surrounding country.""Quite recently our trade extension
division completed a survey of a large
county in an eastern state that has

THIS PIERCE-ARROW VETERAN IS WELL PAST 100,000-MILE MARK.



BUT IT'S STILL HARD AT WORK AND FULL OF PEP.

This load of 3500 feet of sawlogs—there are three logs on each of the five-ton trucks, though only one shows in the picture—weighing 15 to 20 tons, is still easy for this grand old five-ton Pierce-Arrow truck, now working for the Puget Sound Mill & Lumber company in Washington. It is one of the first Pierce-Arrow worm-drive trucks made, as is shown by its factory number of 176. For many years this truck hauled rock for road work at Sandpoint, Idaho. A couple of years ago it had run up a mileage of 125,000 in this work before the lumber company bought it. The veteran works every day and looks good for years more of service.

on driving under various conditions
will be helpful.Though it is generally known by the
experienced motorist that if a hill is
too steep for even first gear the re-
verse may be used, the first-time owner
may give up in despair and try another
road without a steep grade. The re-
verse of every car is geared lower
than first, hence if the car cannot pull
on low because of the steepness of the
hill or lack of power the driver can
back up the hill. It must be done
slowly, of course, and a watchful eye
kept for oncoming cars.In ascending grades always keep to
the extreme right. This should be
done always, of course, but on grades
cars coming down usually travel at
speed and the driver takes a little
more room than usual. It will be found
easier if there is a turn on the
grade.In descending grades various re-
sistances may be used to keep the car
in check and save brake lining. In
some states the grades are so steep
that if the driver were to use the
brakes alone to retard the car's move-
ment, the lining would be burned when
the bottom of the grade is reached. The
driver should remember that shifting to
a lower gear always throws in en-
gine resistance.Hence, on low gear, there is the
greatest resistance obtainable. If the
ignition is switched off, then the rear
wheels turn over the engine and fur-
ther resistance is thrown in. Opening
the throttle introduces a little more.
The brakes should be used only if the
resistances mentioned are insufficient
to prevent the car from attaining a
dangerous speed.Sandy roads baffle the owner who is
accustomed to driving in sections where
no such roads exist. The light car
takes the sand easier than the heavy
car, but both may find difficulty if the
sand is very loose. Once a car is stuck
it is useless to try to get it out by
spinning the rear wheels. This only
causes them to dig deeper into the
sand.

Shift to Neutral.

If no progress is made on the first
trial shift to neutral then get busy at
the rear wheels. Boards, if they are
obtainable, are excellent in allowing the
rear wheels to grip. The boards should
be placed at the rear of the tires and
the car reversed out of the difficulty.In approaching a sandy spot it is
best to speed up a little, holding the
steering wheel firmly so as to be pre-
pared for an emergency. In sand the
steering wheels are a little hard to
control.Muddy roads are negotiated in the
same way as sandy ones, though usually
the tire chains will pull a car
through the mud that is not too deep.
The mud road as usually found is not
soft for many inches down, so that if
the car sinks the chains will probably
take hold on the firmer ground under-
neath the mud. The market now af-
fords a number of devices which may
be attached to the rear wheels to en-
able the car to travel over almost any
kind of a road. In any instance the
device allows the car to sink just
enough to clear the axle.

ROAD GUIDANCE IS GIVEN

PACIFIC COUNTY ENGINEERS
POINT OUT DETOURS.Road Construction Work Makes
Change of Various Points Im-
perative for Autoists.SOUTH BEND, Wash., July 5.—(Spe-
cial.)—H. A. Gibbs, Pacific county en-
gineer, yesterday issued a statement giv-
ing the condition of all main traveled
roads in the county and outlining de-
tours which should be made to avoid
road construction work. Mr. Gibbs
statement follows:"Ocean Beach highway from Lewis
county line to Walville, 19½ miles, in
good condition.""From Lebanon to Nallpee, 2½ miles,
grading is being done preparatory to
paving next year. At the new concrete
bridge just west of Lebanon the flint at
the approaches and over the arch are
being brought to grade. If the road is
slippery from rains autoists should
turn to the left at the east approach of
the new concrete bridge and cross
the Willapa river on the old steel span."After leaving the west approach of the
new concrete bridge, take the old road-
bed to the left and do not attempt to
use the new grade. Stop and blow
your horn before entering the cut on

river the road is fair. This section is

"At the Nema river a landing is being
prepared where cars can be taken on
scows and ferried across the bay to
Nabotta to connect with roads leading
to the ocean beach. This ferry will be
in operation by July 10."

"CUCUMBER KATE" ON JOB

DORT CAR WINS NICKNAME BY
COOL RUNNING.Remarkable Record Made on Run of
926 Miles From Los Angeles
to San Francisco.After running first in its class in the
Stockton-Yosemite reliability run and
second in its class in the Los Angeles-
Yosemite economy run, the same Dort
car has hung up a wonderful record in
a round trip between San Francisco and
Los Angeles.Before this event the Dort had shown
such remarkable cooling that it was
affectionately dubbed "Cucumber Kate."
A name quickly taken up by California
motorists—and one that promises to
stick.In the road test between Los Angeles
and San Francisco the performance of
"Cucumber Kate" was distinguished by
an average running speed of 31.3 miles
per hour for 926 miles, this brisk gait
being maintained with the radiator of-
ficially sealed at the start and only
once replenished with water.Although there was no intention of
making a speed record, it is interesting
to note that "Cucumber Kate" beat the
time on this trip of both the fast rail-
road trains running between the two
cities. "Cucumber Kate" was driven in
this test by Louis Nikrant with Otto C.
Gutsmith as official A. A. A. ob-
server.Before undertaking the run this same
car had made four trial tours to the
Yosemite and return, concededly one of
the most difficult drives in America,
due both to poor roads and hard grades.
The annual contests over these roads
are considered real tests of motor car
efficiency.They are particularly grueling tests
of the cooling properties of a car and
in this the Dort led all others in its
class in both the Stockton and Los
Angeles runs. In the Los Angeles run,
382 miles, but one gallon of water was
poured into the Dort radiator.

FORD ENGINE SPEED LOWEST

Oakland Has Least Weight of All
Cars in Proportion to Power."The average American car, which
weighs 3000 pounds in touring form,
has an engine that develops 44.3 brake
horsepower at 2200 revolutions per min-
ute," says a writer in the May issue of
MOTOR, the national magazine of mot-
oring. This means that the car has one
horsepower available for every 63
pounds of weight without passengers.
Incidentally, it uses a gear ratio of
4.85 to 1.Coming to consideration of the char-
acteristics of specific engines, the au-
thor finds that "the Ford has an en-
gine which develops its maximum
horsepower at the lowest speed—1400
revolutions per minute. The highest en-
gine speed is 2800 revolutions per min-
ute, which is claimed to be the peak of
the horsepower curve of the Cole, Mer-
cer, Nash and Oldsmobile. This engine
speed is not the highest of which the
engine is capable, but that speed at
which it develops its greatest power.
The average speed is about 2200 revo-
lutions per minute.""In figuring the average brake horse-
power the unusual figure of 145 for the
F. R. P. is left out of the reckon-
ing. The lowest power is 25, which is
developed by the Ford, and the highest,
omitting the F. R. P., is 85 developed
by the McFarlan. The average horse-
power is 44.3."The tabulation showing the ratio of
horsepower to weight discloses some
interesting facts. The F. R. P. has the
lowest figure of 25 pounds of car weight
per engine horsepower, but casting this
aside as being unusual, the Oakland is
lowest, with only 25 pounds per
horsepower and the Malibohm highest
with 91 pounds per horsepower. The
average for all cars is 63.4 pounds per
horsepower.First, assume that you must look
out for yourself and the other fellow,
too. Don't rely wholly on the other
fellow doing the right thing, and
you'll be on your guard if he does the
wrong thing and ready for the emer-
gency.not a single mile of railroad track
within its borders. Our object in mak-
ing such surveys and conducting such
research is to help provide a market to
extend the field of usefulness of prod-
ucts made by the workers of America,
strengthening our national life. This
particular county was isolated, though
of great productive power, and was not
harnessed up to the homes of the great
industrial cities of the east nor assum-
ing its part of the burden."Such a county, typical of many sec-
tions, offers possibilities to greater use-
fulness. Adequate provision for im-
proved roads and highways transpor-
tation will provide a system that can
be linked up with main arteries of
travel.""To meet such situations and be-
cause of the evident solution to be
found in improvement of highways and
stimulation of highways transpor-
tation, representatives of several cities
assembled at St. Louis recently and
put themselves behind the develop-
ment of highways as being of particu-
lar and pressing importance. And at
this meeting of the United States Cham-
ber of Commerce a resolution was
adopted urging upon Congress that at
the time had now arrived to create a fed-
eral highway commission to lay out
and build a truly national system of
highways and stimulate their efficient
utilization.""This action merely re-echoes the
voices of hundreds of thousands of
citizens who have already expressed
themselves. As a result of this gen-
eral insistence Senator Townsend of
Michigan has introduced a bill provid-
ing for a federal highway commission
and a national system of highways.
The feeling is unanimous that the time
has come for adoption of a policy for
building outright by the national gov-
ernment of highways of interstate im-
portance, including those essential to
the national defense and development
of the public domain."W. D. Albright, manager of the B. F.
Goodrich Rubber company at Seattle,
has urged in this connection the op-
portunity before our colleges and uni-
versities. He says: "Legislators are at
loss for scientific data for this devel-
opment of motor transportation.""For this reason it becomes increas-
ingly important that our colleges
should provide instruction on highway
location, construction and maintenance
and on every aspect of highways trans-
portation. Efforts made during the
war by the highway transportation com-
mittee of the council of national de-
fense should not stop, but should be
incorporated as a definite part of the
new federal highway commission. And
in addition to classes for instruction
in colleges, there should be research
groups at work. From such study
both in the field and in the laboratory
will come not only text books, teachers
and workers, but gradually will be
evolved the progressive science of
transportation and communication."

HIGHWAY CONDITIONS SET OUT

Roads Around South Bend, Wash.,
Not All Ready for Use.SOUTH BEND, Wash., June 31.—(Spe-
cial.)—County Engineer Gibbs has is-
sued a statement showing the condition
of various highways in Pacific county,
and indicating where detours should be
made. He has also incorporated a
warning against attempts to pass over
certain roads before specified times.
The road bulletin follows:National Park highway from South
Bend to Palix river, nine miles now
being re-surfaced. Open to travel.National Park highway from Palix
river to Nema river; this section is
being regraded preparatory to beingBUICK
EXPERTSBUICK REPAIRS
EXCLUSIVELY
32,000 sq. ft. floor space.
Live or dead storage.
Cheap rates.PARTS SUPPLIES
PORTLAND BUICK
REPAIR CO.
N. W. Cor. Sixteenth and
Jefferson St.
Portland, Or. Main 3419Before You Buy
Another TireThere would have to be something
superhuman about a motorist who'd
like to pay twice as much as he need
pay for the upkeep of his tires.The tires now on your car, assuming
that you've already had 3,000 to 5,000
miles out of them, can be made to give
5,000 to 10,000 miles more—and with
an iron-clad guarantee against puncture.This is made possible by the improved
principle of tire construction developed
and perfected by Charles C. Gates, E.
M.—and embodied in Gates Half-Sole
Tires.

These Gates Half-Sole Tires have been

proved on the cars of 500,000 motorists,
many of them business men you know.They make your tires 20% oversize—
stronger and better than ever before;
and they cost only ½ as much as other
tires of corresponding size.In addition, the puncture-proof guaran-
tee that's back of them assures you
freedom from tire worry—and conse-
quently greater pleasure from the use
of your car.We believe that more mileage and a
saving of one-half on your tire bills
must appeal to you as a motorist—it's
the kind of service you want.GATES HALF-
SOLE TIRES

REGISTERED U. S. PAT. OFF.

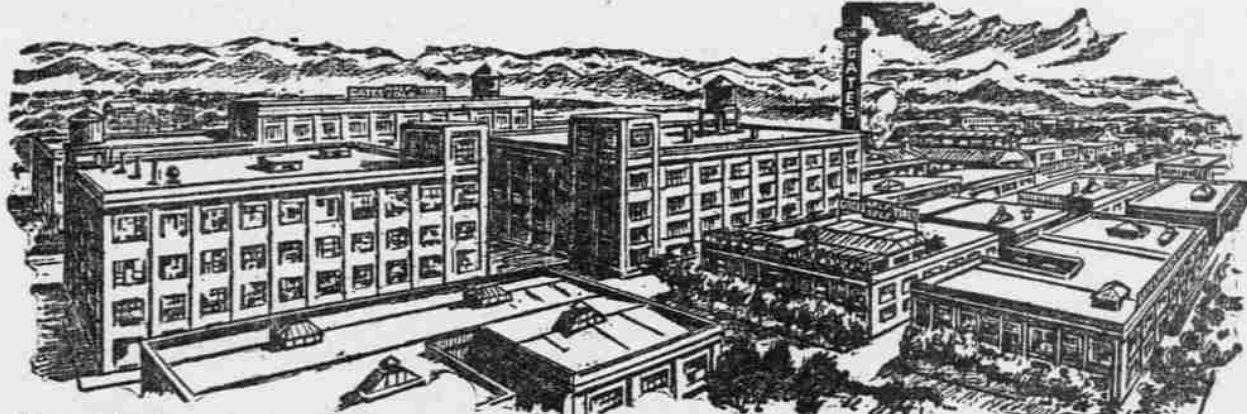
There are now 1231 authorized Gates Half-Sole Tire service stations.
Those in your section are listed below.

PORTLAND—Cowan Tire Service Co., 430 Alder St.

OREGON

ASTORIA—Fish's Tyre Shop.
BAKER—Earl Zindel.
BEND—Best & Harris Vulc. Co.
CONDON—Shelley Garage.
CORVALLIS—A. G. Held.
COTTAGE GROVE—V. S. Goff.
DALLAS—Shreeve's Garage.
EUGENE—Jay Moore.
GRANTS PASS—W. H. Condit Tire
Shop.HARRISBURG—Hill & Company, Inc.
HEPPNER—Stephen M. Irwin.
HILLSBORO—Hillsboro Garage.
HOOD RIVER—Heights Garage.
JUNCTION CITY—S. M. Fries.
KLAMATH FALLS—Chas. B. Johnson.
LA GRANDE—C. R. Leighton & F. E.
Oxner.
LEBANON—Frank Doolittle.
MCMINNVILLE—B Street Garage.
MEFORD—F. R. Roberts.
NEWBERG—W. S. Stall.PENDLETON—Bradley Tire Shop.
SILVERTON—P. W. Neftaker.
THE DALLES—Gates & Co.
WOODBURN—N. Becker & Son.

WASHINGTON

ABERDEEN—Searls Spencer, 317 E. Wishkah St.
CENTRALIA—Centralia Tire Co.
CHEHALIS—Twin City Auto Co.
VANCOUVER—Cherry & Cherry.
WALLA WALLA—Goodman's Tire
Shop.

Home of "Gates Quality", Denver, U. S. A.

graveled. Autoists should abandon con-
templated trips to this section until
after July 15.Bay Center road, from National Park
highway at Palix river to Bay Center,
in good condition.National Park highway from South
Bend to Raymond in good condition ex-
cept through city of Raymond, where it
will continue poor until after filling is
completed.National Park highway from Ray-
mond to Giesey's crossing near Menlo,
in fair condition. After June 1 auto-
ists should leave National Park high-
way at Giesey's crossing and take the
Bullard road and after crossing the
covered bridge, turn to the right and
take the Mill creek road and the Lilly-
Wheaton road and connect with the Na-tional Park highway about one and one-
half miles east of Menlo. This detour
will allow paving operations to be car-
ried on between Giesey's crossing and
Menlo.National Park highway from Menlo
to county line is in fair condition. Auto-
ists should use great care in this sec-
tion as a great deal of road work
is being carried on in grading and re-
placing culverts.

Watch Ball Bearings.

Few owners pay the attention to
the ball bearings that these latter de-
serve. They usually wait until the
garage man calls attention to the in-
jury done by the breakage. At least
once in six months ball bearingsshould be inspected, the rough or worn
balls replaced with perfect ones and
the ball run filled with graphite and
grease.

Forest Road Programme.

The United States Forest service will
engage in a greatly expanded road con-
struction programme this year as a
result of the increased appropriationmade by the last congress. Generally
speaking, a plan will be to connect
remote expenditures on needed links as
much as possible. The fund was not
specifically apportioned as between
states or forests, making it more
flexible than federal aid appropriations.If your wheel doesn't turn free and
true, your tires will suffer.

Stamwood

Adjustable Accelerator

FOOT REST

A reliable safety device to prevent UNIN-
TENTIONAL rapid acceleration when driving over uneven
crossings or rough roads. Relieves the foot and leg
muscles from constant tension. Permits delicate
advancement or retarding of accelerator.

Important Note

The graduated indentations make our foot rest easily
adjustable to various heights and positions. This
feature makes it fit your usual driving position.BE SURE to try the various adjustments and tighten
the nuts at the position best
fitted to your particular need.
Once properly adjusted you
will find it a real comfort in
driving. Adaptable to all
makes of Motor Cars.

Price \$1.60 at your dealer

STANWOOD EQUIPMENT CO.
Chicago, Ill.

DISTRIBUTORS

CHANSOR & LYON CO.
BALLOU & WRIGHT
MARSHALL-WELLS HARDWARE CO.
ARCHER & WIGGINS, Sixth at OakMASTER
TRUCKS

"Master of the Load on Any Road"

1½-ton Internal Gear...	\$1990
1½-ton Worm Gear.....	2090
2-ton Internal Gear....	2390
2-ton Worm Gear.....	2590
3½-ton Worm Gear.....	3890
5-ton Worm Gear.....	4890

Prices f. o. b. Factory

Oregon Motor Car Co.

Distributors

PARK AND DAVIS STREETS