

### MUDHOLES DRY NOW ON WAY TO SEATTLE

Many Rough Places, but Cars  
Get Through Easily.

#### DETOUR AT CASTLE ROCK

Cars Cross Bridge to West Side of  
Cowlitz and Go North Via Ole-  
qua, Winlock and Vader.

KELSO, Wash., May 8.—(Special.)—  
Motorists bound for Seattle can now  
get over the Pacific highway without  
having to be towed. The dry weather  
of the past couple of weeks has dried  
up mud holes. While there are many  
rough places north of Castle Rock,  
there is no trouble about getting  
through.

The 50 miles of Pacific highway in  
Cowlitz county, in former years  
the bane of motorists, is now in bet-  
ter shape than it ever has been. The  
Martin's Bluff-Woodland unit, be-  
tween Kalama and Vancouver, on  
which construction work has been  
carried on for the past two years,  
was completed last winter.

**Detour Beyond Vancouver.**  
Between Kelso and the Lewis river,  
which is the southern boundary of  
Cowlitz county, the highway is excel-  
lent. South of the Lewis river in  
Clarke county, toward Vancouver, the  
highway is good as far as Pioneer.  
There the road is closed for paving  
work and the detour through Ridge-  
field is advised as the best route to  
take.

North from Kelso toward Castle  
Rock for seven miles road construc-  
tion is still in progress, but the high-  
way is open at all times and is pass-  
able, though rough in places. A con-  
tract has been awarded for rock-  
ing it between Kelso and Ostrander,  
which was graded last year. The  
contractors are planning to rush com-  
pletion of this work. The next three  
miles into Castle Rock are very good.

From Castle Rock north for seven  
miles, heavy construction work is  
in progress and the highway is closed.  
It was along this stretch that so  
many cars got stuck in the mud and  
had to be towed a few weeks ago.

**Traffic Detoured Across River.**  
All traffic is now detoured to the  
west side of the Cowlitz river from  
Castle Rock north. This section of  
detour road between Castle Rock and  
Olequa is in awful condition during  
the rainy weather and was practically  
impossible to "stomach." Now it  
is dried out and although rough, is  
easily passable. Cowlitz road offi-  
cials will improve it by dragging.

Tourists who have come through  
in the past few days from Seattle  
advise that the Pacific highway route  
by left from Olequa north, and that  
motorists stay on the west side of  
the Cowlitz river at Olequa and pro-  
ceed to Chehalis through Vader and  
Winlock. This route is reported as  
better condition than the main Pa-  
cific highway.

### LUBRICATION IS VITAL

OILING SYSTEM DECLARED IM-  
PORTANT IN TRUCK.

Each Day Machine Should Have  
Allotted Period for Greasing  
and Close Inspection.

Lubrication is undoubtedly the most  
important factor in truck mainten-  
ance.

Intelligent lubrication is systematic  
lubrication. Each day the truck or  
trucks should have an allotted period  
for greasing or oiling. The driver,  
in the case of one or a few trucks,  
should be required to go carefully over  
his truck and turn down all the  
grease cups.

The life of a truck is increased by  
proper lubrication. The wearing parts  
are thoroughly protected when coated  
with a film of oil or grease and wear-  
ing is considerably lessened, not over-  
looking the fact, too, that friction is  
decreased within the truck itself, leav-  
ing more power for the overcoming of  
road resistance.

The engine oil should be changed at  
regular intervals. End occasionally  
kerosene run through the engine to  
clean it out thoroughly, removing any  
foreign particles of old oil sticking  
to the metal. This is insurance against  
scored cylinders or burned out bear-  
ings.

#### BRITISH IN A BIG COMBINE

Auto Makers Get Together for  
Mass Production.

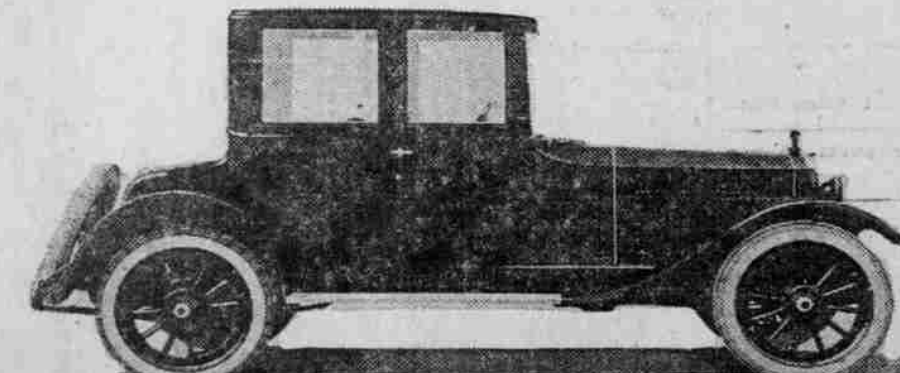
The American chamber of commerce  
in London reports a 16,000,000 (nomi-  
nally \$20,000,000) combine in the Brit-  
ish motor industry, which is the first  
big step toward mass production in  
England.

The new company will be known as  
Harper, Bean, Ltd., and will include  
such firms as A. Harper & Sons &  
Bean, iron founders of Dudley; Vulcan  
Motor & Engineering, company of  
Stourport, Swift of Coventry, the Brit-  
ish Trading corporation and Hatfield,  
Ltd., steel manufacturers of Sheffield.  
It is understood that the designs have  
been standardized and that production  
will begin at the rate of 50 cars per  
week in July, 1920, to 60 per week in  
the following December, and rising  
ultimately to an output of 2000 per  
week in 1923.

The ultimate production will include  
50,000 small cars, 25,000 medium cars  
and 25,000 commercial vehicles.

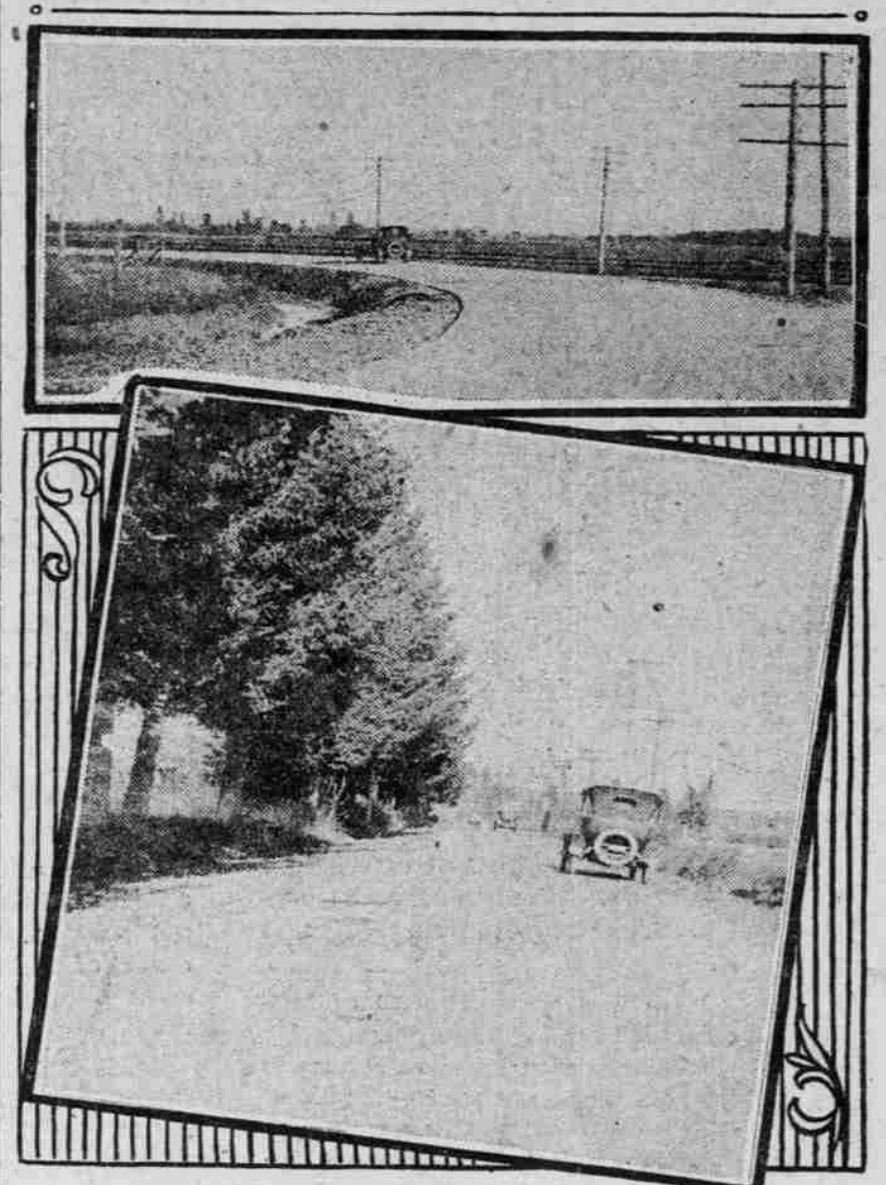
Don't use a spot light that can be  
raised in violation of the law.

#### NEW GRANT SIX COUPE RIGHT CLASSY MODEL.



Enclosed car handled by Manley Auto company seats three passengers, with  
auxiliary seat for a fourth. Special attention has been given to distri-  
bution of weight so as to make the car hold its own on the road and afford  
maximum comfort for passengers. Long springs, the longest ever used  
for a car of the Grant's wheelbase, it is claimed, make it exceptionally  
easy riding. This car has an interior heater for cold weather.

### PAVING SPEEDED UP ON PACIFIC HIGHWAY BETWEEN EUGENE AND JUNCTION CITY.



This work will be completed in June at the present rate of progress.  
Above is a sketch of hard-surface just completed on the outskirts of  
Junction City, showing the wide curves. Below is a straightaway a few  
miles out of Junction City.

### TRACTOR AID IN FARMING

ONE-HALF OF COST OF PRO-  
DUCTION DECLARED CUT.

Facts Brought Out by Replies to  
Queries by Department  
of Agriculture.

In the weekly news letter published  
by the United States department of  
agriculture, statements are issued in  
regard to the use that the tractor can  
be put to on the farm in aiding the  
farmer to reduce his annual expenses.  
It is declared that one-half the cost  
of farm producing is cut by the use  
of the tractor.

These facts were brought out re-  
cently by about 500 replies to an in-  
quiry addressed to the farmers in the  
United States by the department.

With the 28-inch horse-drawn plow,  
one man accomplishes from 70 to 80  
percent more than with a single bot-  
tom plow. One man with a 28-inch  
plow drawn by a tractor covers from  
10 to 25 per cent more ground in a  
day than does a man using six horses  
on a horse-drawn plow of the same  
size. A three-bottom plow drawn by  
a suitable tractor enables one man to  
accomplish from 80 to 70 per cent  
more than does the two-bottom plow  
drawn by six horses.

Similar conditions exist in the op-  
eration of the cultivator. Under con-  
ditions where the use of a two-row  
corn cultivator is practicable, this  
machine enables one man to cover  
nearly twice as much ground per day  
as with a one-row cultivator. In the  
section represented by replies re-  
ceived by the department, three  
horses are most commonly used on  
the two-row cultivator and the addi-  
tion of a fourth horse apparently in-  
creases but little the amount of  
ground covered per day.

### VAST DEPOSITS OF SHALE

OIL ROCK MAY SOLVE FUTURE  
GASOLINE PROBLEM.

Need of More Efficient Engines to  
Get Most Out of Gas Seen by  
Maitbohm Dealer.

"The vast oil-shale vaults of the  
Rocky mountains offer a ready means  
of bringing down present-day gaso-  
line prices," says A. W. Beaver, Mal-  
bohm distributor here.

"Colorado alone is estimated to hold  
2500 potential square miles of oil  
shale deposits. The beds average 10  
feet in thickness and there are ap-  
proximately 18 cubic feet of shale to  
each ton. An average acre of shale  
contains 24,200 tons a square mile,  
15,485,000 tons, and Colorado's shale  
deposits aggregate 38,000,000,000 tons.

"Shale oil could be extracted from  
these tremendous deposits at an aver-  
age cost of \$2.47 a ton and extraction  
operations on a large scale would en-  
able shale oil to be produced at a fig-  
ure low enough to compete effectively  
with prices of underground petroleum.

"Oil recovered from shale is easily  
converted into gasoline and such gaso-  
line has a much lower flashing point  
than that produced from underground  
petroleum. Exhaustive tests show that  
one gallon of gasoline from petroleum  
oil produces approximately 128,000  
heating units, while a gallon of shale  
oil gasoline will produce 134,000 units  
of heat. This demonstrates that the  
shale gasoline will have more power  
per gallon and due to its low flashing

### TIRES

Factory Firsts  
Fresh Stock  
Guaranteed

30x3 Non-Skid.....\$11.35  
30x3½ Non-Skid..... 14.95  
32x3½ Non-Skid..... 16.95  
31x4 Non-Skid..... 19.85  
32x4 Non-Skid..... 20.50  
33x4 Non-Skid..... 23.45  
34x4 Non-Skid..... 23.95  
35x4 Non-Skid..... 39.50  
36x4 Non-Skid..... 39.75  
35x4½ Non-Skid..... 34.95

#### Cord Tires

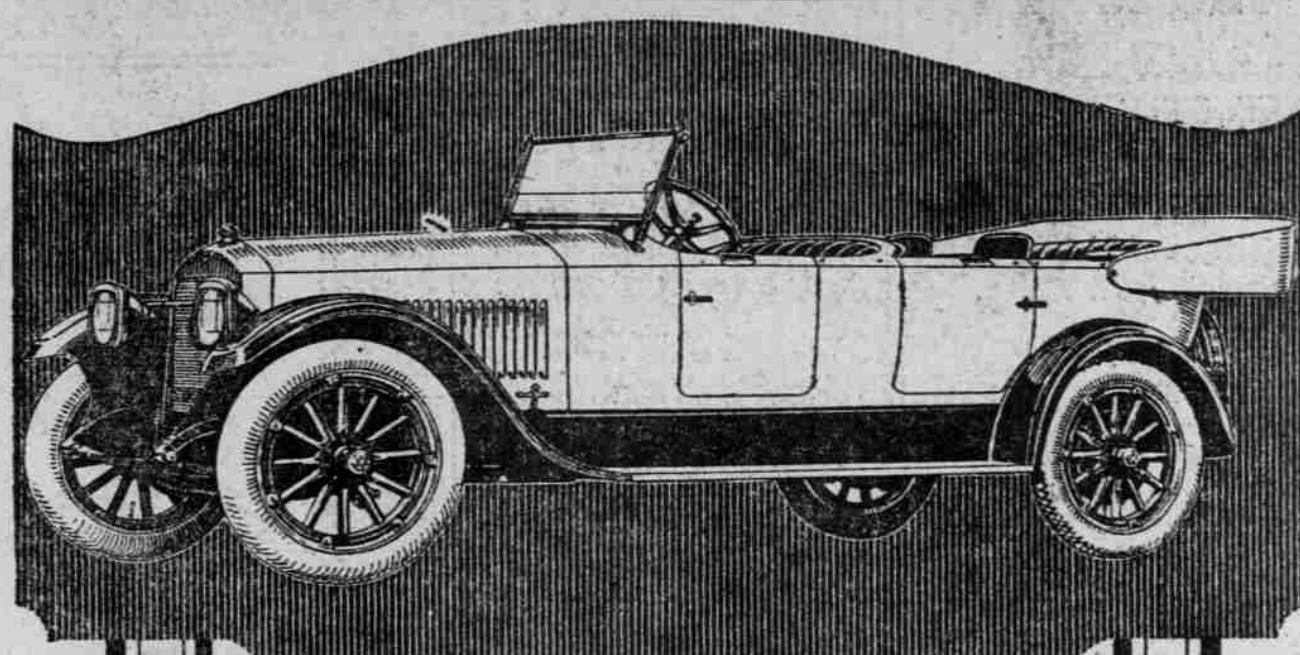
8000-Mile Guarantee

30x3½ Non-Skid.....\$23.95  
32x3½ Non-Skid..... 27.30  
32x4 Non-Skid..... 39.50  
33x4 Non-Skid..... 41.50  
34x4 Non-Skid..... 42.50

Mail Orders Given  
Prompt Attention

### Malcom Tire Co.

Broadway and Everett Streets  
Portland, Or.



## Studebaker

### SERIES 20 BIG-SIX

You are familiar, of course, with  
the beautiful lines of the BIG-SIX,  
because you see so many of them.  
There is beauty, as well, in the  
comfort and performance of this  
great car—as a ride will quickly  
convince you. Let us give you a  
demonstration.

60-H. P. detachable-head motor; inter-  
mediate transmission; 126-inch wheel-  
base, insuring ample room for seven adults.

All Studebaker Cars are equipped with  
Cord Tires—another Studebaker precedent.

"This is a Studebaker Year"

W. C. Garbe, Inc.  
FORMERLY OREGON MOTOR CAR CO.  
Broadway at Burnside.  
Phone Broadway 616.

The screw handle on this gun is in  
reality a high-pressure pump capable  
of forcing the grease in the same way  
that the larger one does and under  
the same pressure per square inch.

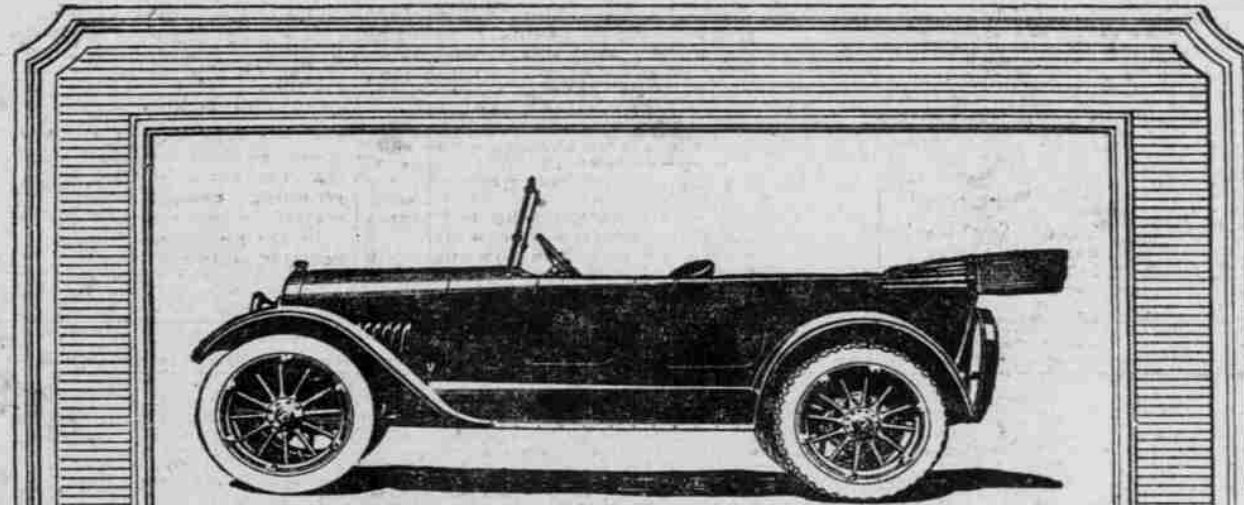
#### Dimming the Lights.

It is possible to make a dimming

device at home by frosting the head-  
lights with a solution composed of  
epsom salts in a cup of water, a sat-  
urated solution. Simply paint the in-  
side of the lens with this solution,  
which forms a frosting lasting several  
months. Or it is possible to make a  
permanent job of the frosting by get-

ting what is known as "ground glass  
substitute" from a photographic sup-  
ply house. This material is composed  
of ether and resin, and glass once  
painted with it stays frosted practi-  
cally for ever.

The first New York automobile  
show was held in 1909.



Chevrolet "Baby Grand" (Model FB) Touring. \$1499.10 F. O. B. Portland.

### CHEVROLET

#### "Baby Grand" (Model FB) Touring Car

SOME say it is the beauty of its streamline  
design that makes the new Chevrolet "Baby  
Grand" Touring Car so appealing. Others are  
equally enthusiastic over its mechanical perfec-  
tion, the deep, wide seats and roomy body. But  
all agree that it is a car of unusual merit and well  
worthy of bearing the name "Chevrolet."

If you want an automobile that you can take  
genuine pride in owning—one that is economical  
to operate and dependable for all needs—you  
should inspect this new Chevrolet model. It is  
a car that leaves little to be desired at a price  
that pleases.

Fields Motor Car Co.  
Alder at Fourteenth Street  
PORTLAND

BRUTE STRENGTH

Complete Line—  
1½-ton  
2½-ton  
3½-ton  
5-ton  
6-ton

# Master Trucks

Only Truck Built With  
3 Final Drives

Timken Worm  
Internal Gear  
Double Reduction

Notice to Dealers: Write, your territory may be open.

## W. C. Garbe, Inc.

Formerly Oregon Motor Car Co.  
DISTRIBUTORS  
BROADWAY AT BURNSIDE  
Phone Broadway 616  
PORTLAND—SEATTLE—PENDLETON

### AUTO ACCESSORIES AND PARTS

Stewart SPEEDOMETERS  
and "BIG TEN NECESSITIES"  
They're More Than Accessories  
Official Service—Genuine Parts  
Product Service Station, 333 Ankeny Street

Wiggins Company, Inc.  
Formerly  
Archer & Wiggins Co.  
Distributors

Automotive Equipment  
Sixth Street at Oak

David Hodes Co. AUTOMOBILE GEARS  
PARTS AND ACCESSORIES AT  
REDUCED PRICES  
ENGINES A SPECIALTY  
105-107 North 11th St.  
LAHER AUTO SPRING CO. 10,000 Springs Carried in Stock.  
Let Us Repair Your Springs  
Where You Get Service.  
15TH AND COUCH STREETS

Miller Northwest Auto Co.  
Distributors  
Miller Tires, Miller Ad-On-A Tires  
Repair Materials and Tubes  
Alder at Eighteenth St. Portland

HASSLER  
Shock Absorber  
Recommended by a Million  
Ford Owners  
West Coast Distributors Corp.  
435 Stark St. Phone Broadway 4564

Willard STORAGE  
BATTERY  
Willard Threaded Rubber Insulation  
Service Station—Ninth and Everett

### AUTO DIRECTORY

Mitchell  
New Light Six,  
Mitchell, Seven-Passenger Jordan  
MITCHELL, LEWIS & STAYER CO.  
Broadway at Oak

RAINIER Worm Drive TRUCKS  
SALES AND SERVICE  
SERVICE GARAGE  
351 First St. Phone Main 2417

Sayers Six Motor Car Co.  
Sayers-Pacific  
SAYERS Auto Funeral  
Equipment Washington  
State Distributors

JACKSON Sayers-Pacific  
Motor Car Co.  
SIX FOUR WHEEL  
TOURING DRIVE TRUCK  
Twenty-first and  
Washington  
State Distributors

BETHLEHEM TRUCKS Electric Lights and Starter  
Northwest Auto Co., Distributors, Alder at 18th

Franklin offers more of "what you actually need and want  
in an automobile."  
BRALY AUTO CO.  
Main 4880, A 3881. 19th and Washington Sts.