

CLOSER BALANCING NOW LARGE FACTOR

Every Day Working Tools
Once Confined to Use in
Factories Alone

In their endeavor to whip vibration and lengthen the life of wearing parts instruments, once confined to the laboratories of scientists, are now found as every day working tools in some of the finer automobile factories. This is due to the fact that measurements and fit requirements have become so exacting.

This interesting information was brought to light today by Vick Bros., local Oakland-Pontiac dealers, in an interview with newspaper men when they pointed out that with higher standards have come closer limits of fit and balance. "The ten-thousandth of an inch supersedes the thousandth while the latter replaces the hundredth," declared Mr. Vick. "Naturally this situation has necessitated new scientific instruments to gauge the finer limits and assure the expected results."

"One among the many scores of scientific devices used in measuring the close limit operations in Oakland Six factories is the crankshaft vibration balancing machine, an instrument which uses a light beam under a polygonal prism glass to measure the unbalanced condition and to indicate its location and amount at any point on the crankshaft."

"For years the light beam has been used for experimental work in fine limits in scientific laboratories because a light beam will pass through the most minute opening, an opening which can neither be seen nor determined by any other type gauge. Thus as the crankshaft spins in its testing machine, the operator detects the exact point where the vibration is set up and by grinding a few minute grains of steel from the point indicated brings the crankshaft into almost vibrationless travel."

"This balance testing instrument is a development of the General Motors research division while the Oakland division is a pioneer in its use in factory production."

"Some idea of the ruthless demand of engineers for more severe limits may be appreciated when it is told that 23 operations in Oakland Six engine parts are rigidly held within three ten-thousandths of an inch, 30 operations within five ten-thousandths of an inch, more than 100 within one-thousandth and more than 200 within two-thousandths of an inch."

GAS WHAT IT COSTS IN MANY SECTIONS

People of United States Ex-
ceptionally Favored by
Price of Gasoline

NEWARK, O., Leader.—When you run your old car into a filling station and get a tank full of gasoline and ask the price and find it under 20 or 25 cents and you win at the cost, just keep in mind you are a fortunate driver. This applies also to most of the owners of America's 21,000,000 cars.

If the filling station should be in Durham, British South Africa, you would be paying 98 cents per gallon. But Durham is a long way from oil production. That is true; so are a number of other places where prices are high. Then there is Mexico City. Vast amounts of crude oil are produced in Mexico and not a very great distance away from the city. But the consumers there must pay the price of the refinery in the United States and add the freight rates thereto. This runs the cost per gallon up to 35 cents.

A similar condition seems to exist in Bogota, Colombia, where the price of gasoline is quoted at 73 cents. Colombia has rich oil fields, although they are only partially developed.

In countries where there is no crude oil production the price of gasoline may run high with the excuse of transportation costs, import duties, excise taxes, distribution and marketing costs, quality of gasoline and other causes.

At Bucharest, Rumania, the price quoted is 15 cents, while in Athens the price is 62 cents. In this there seems an inequality that could only be accounted for by excessive taxes and freight rates.

The people of the United States, except in the mountain regions, are exceptionally favored by the reasonable prices of gasoline. Production costs are low and quality output is large.

Association Says 1,200
Automobiles Taken Abroad

The foreign department of the American Automobile association says that some 1,200 automobiles were taken abroad by American motorists during 1926, this being an increased number. On some citizenship lines cars now may be shipped uncrated and cheaper than

formerly. Arrangements have been perfected with most of the European countries, says American Motorist, whereby the American Automobile Association can attend to all the customs and shipping and border-line difficulties before the traveler leaves the United States, thereby making it possible to motor from one country to another with a minimum of delay and expense.—Motor Chat.

KNIGHT MAKES RUN IN MOUNTAIN TEST

Traveling 750 miles in 19 hours, 52 minutes at an average speed of 40 miles an hour, the entire journey being made in high gear, is another accomplishment marked to the credit of the "70" Willys-Knight six. This stamina test was recently staged in a run in New Zealand from Christ church to Invercargill and return.

The route was over a hilly and mountainous territory known in that section of the world as a severe test for any motor car. The run was made under the official observation of the Canterbury Automobile association and at its conclusion officials of the association issued a certificate attesting the accomplishments which included the following:

Engine ran continuously for 21 hours, 38 minutes; total mileage 750 miles; average speed throughout, deducting time spent in controls, 39.9 miles per hour; total amount of petrol used, 41 gallons; average petrol mileage, including idling, 19.2 miles per gallon. The certificate was signed by H. Falck, president of the association and John H. Hawkes, secretary.

The start of the trip was made in a heavy downpour of rain. The Willys-Knight twice sped up the steep grades of the famous Kilmog hills and Mt. Cargill, mastering these difficult climbs in high gear, considered a notable accomplishment.

Despite the gruelling test less than one gallon of oil was used and only one pint of water was added to the radiator supply, a tribute to the Willys-Knight cooling system.

The severe test was made in a stock car fully equipped and required no adjustments during the trip nor at its conclusion.

After June 10 it will be a misdemeanor to paste stickers on windshields. Why not make it a felony to write signs on the back of a Ford?

AN AMATEUR TEST DRIVER TRIES CAR

Engineers Make Tests and
Then Machine Turned Over
to Others for Use

DETROIT, Mich.—(Special)—An amateur test driver is best fitted to put a new car through its paces and bring out any defects or weaknesses that may exist, in the opinion of W. A. Whiteley, president of the Paige-Detroit Motor Car company. As a result, young business office men at the Paige factory are given an opportunity from time to time to put in their working hours behind the wheel of a new Paige.

The average driver, the Paige president reasons, will test and judge the car during its years of service. The car must be built to withstand more severe usage than would result from only expert care and handling.

When the engineers turn a new model over to the executive for his approval, after the most exhaustive tests known to them, he looks about him for an amateur test driver.

"Here, young man," he will say when he has made his selection, "go out and put 1000 miles on this new car." And away goes the car with a test driver who knows virtually nothing about auto mechanics, and less of the engineering problems involved. Later another driver of the same type is called upon to put additional mileage on the speedometer. After the test drives, every part of the car is given the most minute expert examination. Gasoline and oil consumption are charted. Every part is given laboratory scrutiny to determine its fitness "under fire."

These grilling tests over all kinds of roads and in all kinds of weather are repeated innumerable times. In addition, G. Clark Mather, Paige chief engineer, personally puts thousands of miles on the company's new creation, recording results in pick-up, speed, power, flexibility, safety and economy. Perfection alone satisfies the Paige engineers. Only after the most exhaustive tests over a term of months, or even years as in the case of the new Paige, four-speed transmission, is a new improvement or model offered to the public. It is because of such rigid require-

ments that virtually every improvement pioneered by the Paige company has become standard in the industry.

Washing Machine Company Finds Automobile Big Help

Like the United States Mail service, the telephone, telegraph and fast transcontinental trains, the automobile has proved its worth to business. Today it stands in the front rank of those agencies upon which business is absolutely dependent. In the opinion of Mr. Bonesteel, local Dodge Brothers and Graham Brothers dealer, Mr. Bonesteel believes that the automobile has attained its present commanding position because its adaption to a thousand and one business needs has been fundamentally sound. More than ever before the business man of today realizes that the motor

car makes money for its owner, he says.

Mr. Bonesteel cites a recent letter from L. R. Boulware, general sales manager of the Syracuse Washing Machine Co., manufacturer of the Easy Washer, which says:

"The Syracuse Washing Machine company now operates a fleet of approximately 100 Dodge business coupes. Most of these cars are used by our factory representatives in calling upon our dealers and agents in various cities. Before we furnished them with cars a large proportion of their time was wasted because they had to depend upon trains and other restricted means of transportation to get from one city to another. By driving their own cars they are able to satisfactorily care for much more extensive territories and the expense to the company is less than before."

"—No repairs or engine costs in 30,000 miles"

—From one of thousands of satisfied Willys-Knight owners.

Performance records and careful operation of Willys-Knight cars readily explain their great increase in sales.

The Knight Engine.—"The engine improves with use"—grows quieter, smoother, more powerful the longer you drive.

7-Bearing Crankshaft—"of course."

Skinner Rectifier—Prevents oil dilution and contamination.

4-Wheel Brakes—Positive, mechanical, quick-acting.

Bellex Shackles—Eliminate squeaks, greasing and adjustment.

6 Timken Bearings in Front Axle—Easiest steering.

Narrow Body Pillars—at windshield—for greater vision.

Adjustable Front Seat—Fits you—tall or short, stout or thin.

Light Control at Steering Wheel—Convenient as a wrist watch. A wonderful convenience in night driving.

Waterproof Stabilizers. Air cleaner. Thermostatic temperature control. Finest quality upholstery and fittings.

"70" Willys-Knight Six, \$1295 to \$1495. Willys-Knight Great Six, \$1850 to \$2295. Prices f. o. b. factory and specifications subject to change without notice.

WILLYS KNIGHT

MacDONALD AUTO CO.
Cottage at Ferry Streets. Telephone 409

A Type of Performance Not to be Matched by any other six near its price

DIFFERENT—utterly different in the quality that stands out as distinctly in its exterior beauty as in its interior elegance, the Hupmobile Six contrasts even more strikingly with the ordinary six in performance.

The vigor of its response, the easy way it reels off top speeds with perfect smoothness, the marked restfulness of its riding and driving—these impress you at once as unusual.

And the quality is decidedly unusual—for Hupmobile actually puts 10% extra into materials and workmanship, thus making this the closest-priced Six in America.

If quality means more to you than showy appearance—then inevitably you will single out Hupmobile as the Six of soundest value and surest satisfaction in its field.

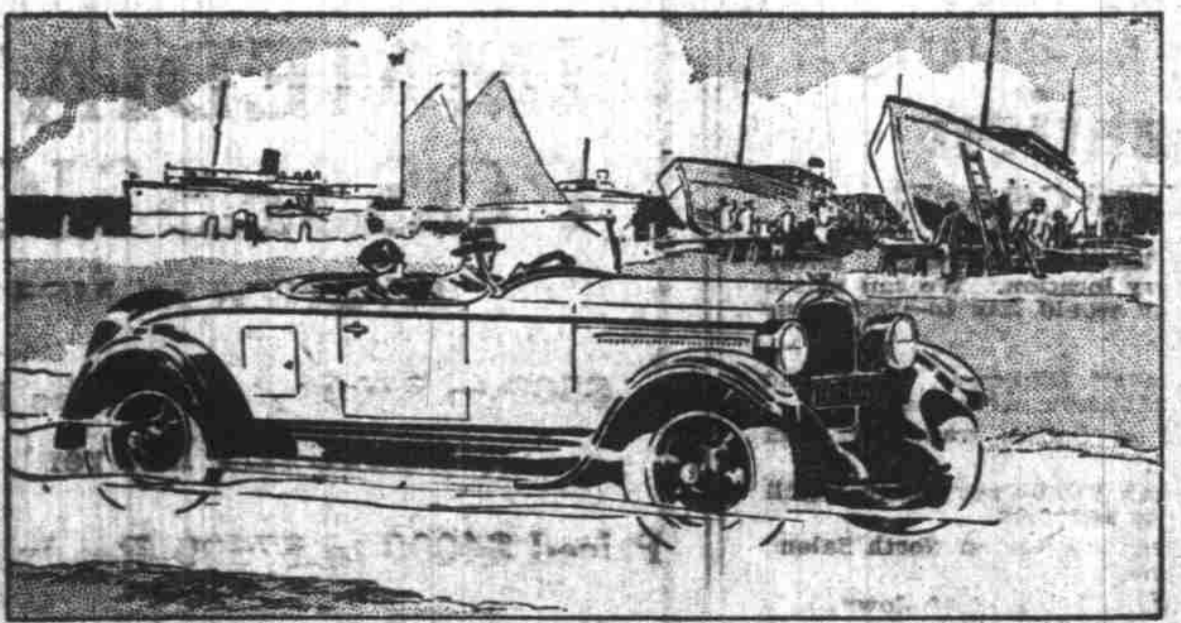


Every Worth While
Feature the Modern Car
Should Have

Clear Vision Bodies • Color Options • Mohair Upholstery • Instrument Panel Under Glass, Indirectly Lighted • Vision-Ventilating Windshield Tilting Beam Headlights Headlight Control on Steering Wheel • Both Manifold and Thermostatic Heat Control • Dash Gasoline Gauge Gasoline Filter • Force Feed Lubrication • Oil Filter Special Vibration Damper 4-Wheel Brakes • Balloon Tires Snubbers

Sedan, five-passenger, four-door, \$1385. Brougham, five-passenger, two-door, \$1385. Coupe, two-passenger, with rumble seat, \$1385. Roadster (illustrated), with rumble seat, \$1385. Touring, five-passenger, \$1385.

All prices f. o. b. Detroit, plus freight and tax



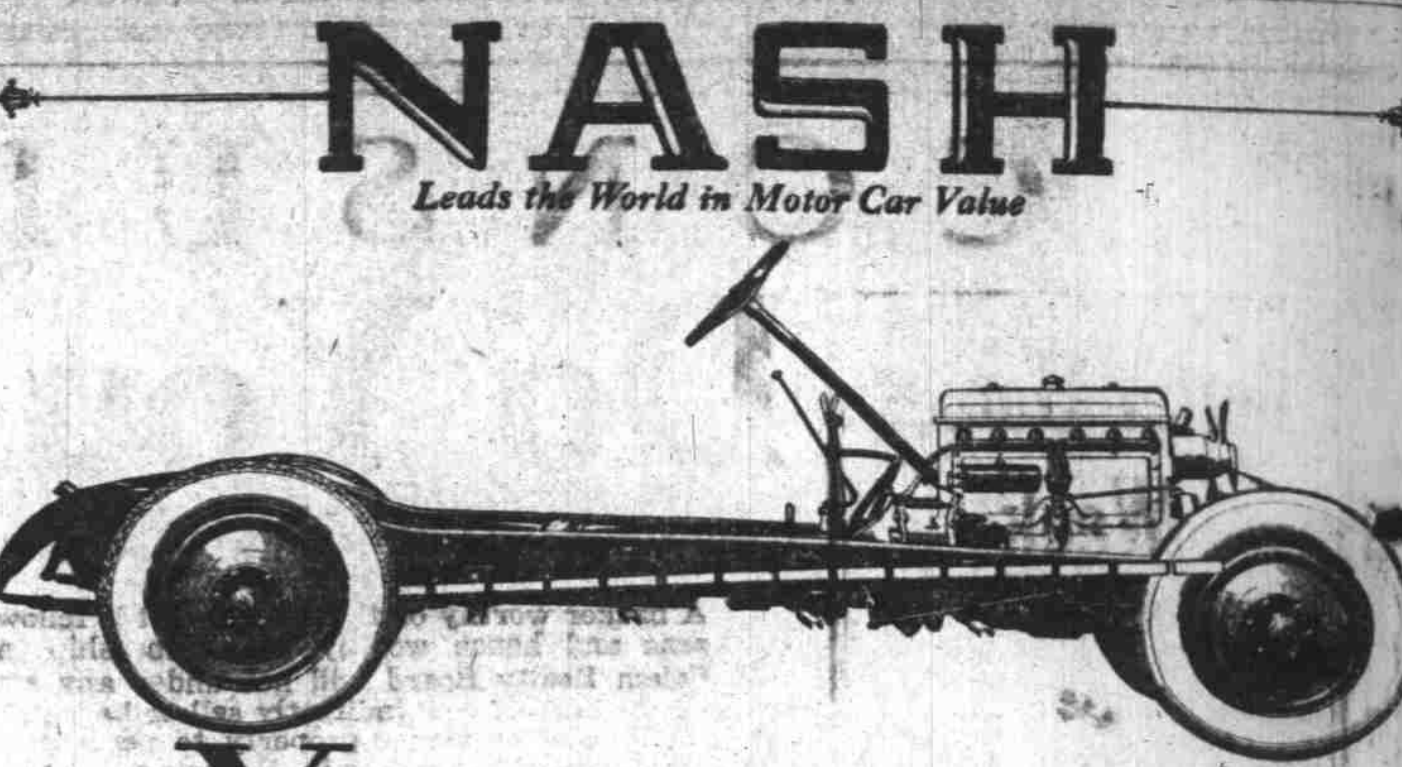
Hupmobile Six

THE CLOSEST-PRICED
SIX IN AMERICA

Gingrich Motor Co.

515 South Commercial Street

Telephone 635



NASH

Leads the World in Motor Car Value

**You can see why
Nash has extra power**

The extra power that makes Nash a more capable car to drive, particularly on the hills or in dense traffic, is directly due to extra-efficient design.

The Nash Straight Line Drive, for instance, diagrammed above.

Nash power flows directly from the engine to the rear axle in a straight line. There are no angles along the route to waste energy, as there would be if the motor were mounted parallel to the frame, as the ordinary motor is.

The Straight Line Drive accounts in part for Nash aggressiveness—for the powerful pick-up at low speeds (where you need it most). You will always notice it is the Nash that gets away soonest when the traffic starts.

The Straight Line Drive also avoids wear on the universal joints, and thereby prevents noise and looseness.

Of course, it takes a little longer and costs more to build Nash this better way—But any Nash owner will tell you it makes a lot of difference in the results he gets.

Drive a Nash, before you decide which car to buy!

26 Different Nash Models at from \$1030 to \$2350 f. o. b. Salem

F. W. Pettyjohn Co.

365 North Commercial

Telephone 1260

"AFTER WE SELL, WE SERVE"

EXTRA HOURS OF EXTRA CARE IN EVERY NASH

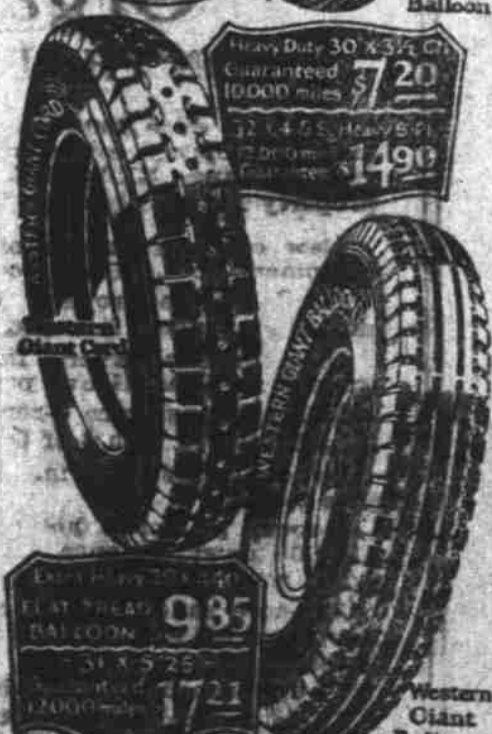
Last Day — Monday, May 2nd "Western Auto's" New Customer TIRE SALE

THESE greatly reduced tire prices will soon be history—perhaps, in the face of persistent rumors of a general increase in tire prices—never to be repeated. This, with the rapid approach of the Spring touring season, should be an incentive to quick action by car owners who failed to buy during the first week of this memorable sale. Even if your tires will last a little longer, you should anticipate near-future needs right now, while these substantial savings are available.

The tires offered in this welcome sale are the same Wear-well and Western Giant cords and balloons of which motorists purchased more than \$6,000,000.00 worth in 1926. Every tire is new, fresh stock, carries manufacturers serial number, and is backed by our "Good-as-Gold" Guarantee.

REMEMBER—MONDAY, MAY 2nd is the Last Day.

Tires Mounted Free!



Wear-well Balloons

Guaranteed 16,000 Miles

Full balloons of superior quality, with broad flat ribbed tread. Supreme value at these low Sale Prices. Buy now—for the future.

Size	Reduced Sale Price
29x4.40 Balloon	\$7.48
29x4.95 Balloon	10.60
30x4.95 Balloon	11.00
30x5.25 Balloon	12.30
31x5.25 Balloon	12.80
30x5.77 Balloon	14.45
33x6.00 Balloon	15.30

Western Giant Cords

Guaranteed 12,000 Miles

(Reg. Size Guaranteed 10,000 Miles)

Massive extra heavy duty super-cord. The most economical tires made, at reduced prices.

Size	Reduced Sale Price
30x3 1/2 Reg. Size Cl.	\$ 7.20
30x3 1/2 Extra Oversize Cl.	8.75
31x4 S. S. Oversize	11.38
31x4 S. S. Oversize	14.47
32x4 S. S. Oversize	14.90
33x4 S. S. Oversize	16.04
32x4 1/2 S. S. Oversize	20.78
31x4 1/2 S. S. Oversize	21.57
34x4 1/2 S. S. Oversize	22.36
35x5 S. S. Oversize	28.25
35x5 S. S. Oversize	30.35

Western Giant Balloons

Guaranteed 12,000 Miles

Extra heavy throughout—built to give extra mileage under the most exacting service. Unequalled economy at our low sale prices.

Size	Reduced Sale Price
29x4.40 Balloon	\$ 9.85
29x4.95 Balloon	14.47
30x4.95 Balloon	15.00
31x4.95 Balloon	16.07
30x5.25 Balloon	16.78
31x5.25 Balloon	17.21
30x5.77 Balloon	19.73
33x6.00 Balloon	24.14
32x6.20 Balloon	27.14
33x6.75 Balloon	31.30

Tube Prices Also Greatly Reduced

JUMBO EXTRA THICK and BLUE RIBBON TUBES—all sizes, for balloon and high pressure tires are greatly reduced for this new Customer Sale.

Our new catalog listing thousands of economies in everything for your car—Tires, Accessories, Camp Goods and Radios.

Open Saturdays Until 9 P. M.

More than 150 Stores in the West—
Western Auto Supply Co.

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Telephone 796

FOR COMMERCIAL USE—
WESTERN GIANT TRUCK TIRES—built to carry the heaviest loads, are the most economical commercial tires made. Prices lowered for this Sale.