

INFLATION IS MOST IMPORTANT FEATURE IN CARE OF TIRES

Weight Each Car Has to Carry Factor in Degree of Inflation.

NO GENERAL RULE GIVEN

Construction, Speed, Power, etc., Are All Matters Which Affect Tires, It Is Said.

(Editor's Note—The following article on inflation of tires was prepared exclusively for the Journal by John H. Henry of the Columbia Tire Repair & Supply Co., who has had many years' experience in building tires, and is the first of a series of articles on how to get the maximum service from your tire equipment.)

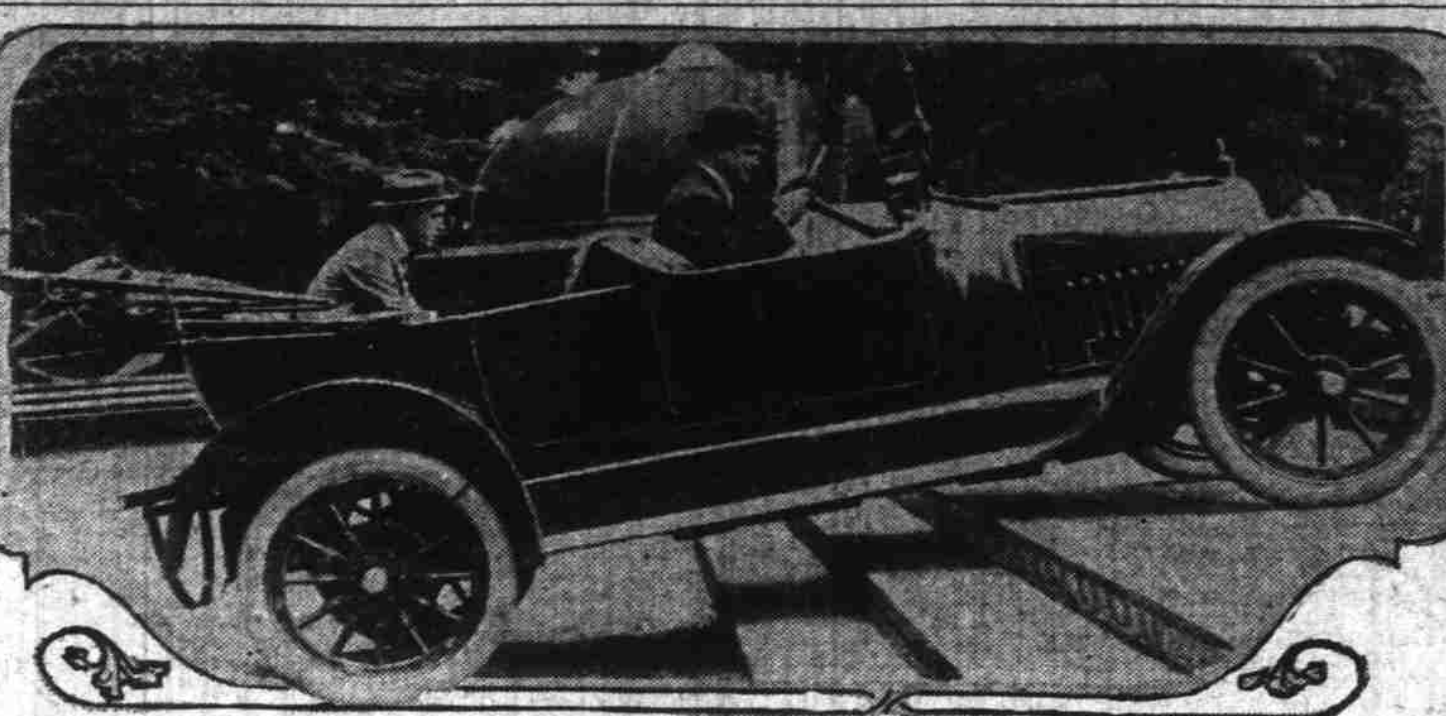
The most important point in the care of tires is inflation. There are so many different factors having an influence on the usage of tires that no rule for inflation can be adopted which will be exactly suitable to all conditions. Construction of your car, its weight and distribution, speed and power, road conditions, the expert or careless driving, all have important connections with the strains to which the tires will be subjected. Consequently, a fixed rule for inflation would produce different results, and if one listens to all the advice given by tire and repair men on this subject, its effect after summing it all up would be something like the advice given by a tire maker when he said, "The best way to make tires last longer is to take them off the wheels, dust them carefully with French chalk and flowers of sulphur, wrap them in paper and then in tin foil, lay them away in a cool, dark, dry place. They must not be used on a car, because tires deteriorate in use."

Schedules are recommended. The schedules of inflation recommended by the tire companies provide, however, a basis from which to work. Usually the front tires should be inflated from 15 to 18 pounds per inch of cross section and those on the rear from 15 to 20 pounds per inch of cross section. Thus a tire having a cross section of 4 inches on the front wheel would take from 60 to 72 pounds, and those on the rear wheels of the same size from 60 to 80 pounds. The variation in these pressures depends upon the things before mentioned, especially the weight of the car. For example, a tires on a car weighing 1800 pounds do not require as much air pressure as the tires on a car weighing 2500 pounds. The tires ride hard when pumped up to a high pressure and used on light cars, but with the same pressure ride comfortably on a heavy car.

So it will be seen that the weight each tire has to carry is an important factor in determining the correct inflation. To find this weight, first weigh the front and then the rear part of the car separately, running first one and then the other half on the platform scales. The weight carried by each tire will be one half of either of the respective amounts. This weight being found, it might be well to consult the table of carrying capacities of pneumatic tires recommended by tire makers in any of their price lists and see just what your tires have been having to do and what they ought to do.

Deflection Is Caused.
A four inch tire inflated to 70 pounds pressure and carrying a weight of 500 pounds will naturally deflect more than the same size tire carrying the same inflation carrying a weight of 700 pounds. The heavier weight causes some deflection of it and the heat which is thus produced causes separation. The great danger is in going to the extreme, and a great many car owners, in the way, sacrifice tire efficiency and maximum mileage.
If you find the tires ride hard when inflated to 40 pounds pressure it is safe to reduce the pressure to 75

CAR OUGHT TO MAKE GOOD HILL CLIMBER



C. C. Clinton in his new Stearns-Knight four-cylinder machine driving up steps at City park entrance.

pounds or 70 pounds, providing this does not permit the tires to bulge or flatten under the weight of the car.
Don't guess at the pressure from appearance; use a gauge or have your tires looked after at any of the service stations, where they will only be too glad to see that you have the right pressure in them. Tires sometimes appear to round up well, but when tested with gauge you may find the pressure is entirely too low to secure best results.
Whatever you do, keep your tires properly inflated.

MOTORCYCLISTS WILL RACE COAST TO COAST

One Hundred and Seventeen Riders Have Entered in the Contest.

One hundred and seventeen riders will participate in the coming coast-to-coast motorcycle relay race which is to start from New York city about July 15. The cross-country course has been divided into 28 relays, each covering approximately 90 miles. Every possible precaution is being taken to prevent the loss of a single instant in hurrying the message from President Wilson across the continent to San Francisco, in the shortest possible time.
Three riders are to be appointed for each relay—the first to carry the message, the second to continue with the dispatch in case of accident to the first, and the third to take up the trail should both of the others be put out of the running. Every participant is to know thoroughly the portion of the course which he is to cover, so that he will be able to make the quickest time under any conditions.

The route for the dispatch will be the central New York route from New York city to Chicago, thence to Sterling, Ill., over the Lincoln highway. From there the journey to Denver, Des Moines and Omaha will be over the Rock River route. At Omaha the route will again follow the Lincoln highway to Ogden, Utah, where they will take up the Overland trail to Reno. The remainder of the route from Reno to San Francisco will be over the Lincoln highway, by way of Sacramento.

Good Time Made In Road Contest

Walla Walla, Wash., June 12.—As the result of an argument between Henry Zuger and John Clodius as to whose car can make the trip from Walla Walla to Wabburg in the least time a match race was run from this city to Wabburg over the inland Empire Highway June 9, and Clodius won. The winner of the race, Clodius, was driven by J. B. Bartlett, won, making the distance of 25 miles in 34 minutes. Paul Welch, who defeated "Wild Bill" Devins of Spokane in the eastern yesterday and upon hearing of the race ordered Sheriff Lee Barnes to get busy pointing out that public highways cannot be maintained for racing purposes.

RUSSIA IS INVITING FIELD FOR AMERICAN COMMERCE LEADERS

Awakening of the Extensive Country Must Appeal to U. S. Business Men.

C. H. Williams, the Portland branch manager of the Goodyear Tire and Rubber company, received last week a very interesting letter from W. V. Logan, a factory representative of the Goodyear people who has just returned to America after a stay of several months in Russia.
Logan is greatly impressed with the opportunity America has in securing business in Russia, and has the following to say regarding the country:

"All evidence is that Russia is having a great awakening, and there is no end to the possibilities there for American business institutions—whose representatives study Russian conditions and prepare for business realizing that Russia is not the United States, and that American business methods must be modified and adapted when applied there."

Auto Trade Gaining.
"Germans have had much of Russia's commerce. No matter what the outcome it will be long—if ever—before the war feeling subsides. And that makes America's opportunity. Few people in this country appreciate Russia's vastness, its lack of development in industries of its own, and its possibilities."

Take the automobile industry: when the war started there were only 12,500 motor vehicles in Russia—trucks, pleasure cars, large and small. The government purchased between \$15,000,000 and \$20,000,000 worth while I was there. After the war American automobile products will be very well known. The introduction is now being made. It is up to American manufacturers to follow the introduction

if they care for the enormous business that can be theirs."

Mr. Logan sailed from New York in January. To reach Petrograd he went first to London; to New Castle by rail; by 650 ton steamer to Bergen, Norway; thence to Christians and Stockholm; from there instead of across the Baltic he went to the north of Sweden, within 36 miles of the Arctic Circle, going around the north of the Baltic in reindeer sleighs; through Finland, then by train to Petrograd, the trip from London requiring seven days. He remained in Petrograd 10 weeks, except for two short trips to Moscow.

Russians Are Hospitable.
"Moscow, the ancient capital, is Russia's business center. Petrograd is the governmental and diplomatic headquarters," continues the letter. "Judging by those I encountered, the Russians are a most hospitable and courteous people. The official language seems to be French, and some English. German is known extensively, but now there is a war ban against speaking it, with heavy fines for offenders."

"All industries are now centering on government work. One hears nothing but war talk. Russia has 8,000,000 men in training or action and everywhere there seems serene confidence that nothing but victory is ahead."

"In Russia it seems that people either have plenty of money or none at all. Those who have are great spenders. Food supplies are apparently plentiful, but city prices for necessities are away up. I saw strawberries at 35 cents apiece; apples at 75 cents. Hotel fare is affected now by the fact that most of the better cooks and chefs are with the army."

"I want to say just a word in tribute to Ambassador Mayne, at Petrograd. Nothing has exceeded the friendliness, the courtesy and untiring energy with which he and his staff are performing their difficult duties."

LEG FRACTURED BY AUTO
Walla Walla, Wash., June 12.—Going into the ditch three miles east of Wabburg, last Sunday, E. W. Collier of Pomeroy had his first mishap on a proposed trip from Pomeroy to St. Louis. Ole Norris of Dayton, who was with Mr. and Mrs. Collier, and their daughter, received a fractured leg and was left in Wabburg while the party continued to Missouri.

ROMANCE CONTINUES, MOTOR BUSINESS IS CITED AS CRITERION

Scientific Treatment Given Studebaker Cam Shaft Is Real Wonder to Behold.

MIGHTY FURNACES USED

True Knight Errant of Today Is One Who Keeps Faith With the Customer at All Times.

By A. H. Brown.

Northwest Manager, Studebaker Corporation.

Romance never dies. We may be too close to it to recognize it, but it is as surely here today as it was when Achilles fought with short, stout sword against the Trojans and when King Arthur went forth in coat of mail to battle against the heathen that threatened the chivalry of old England.

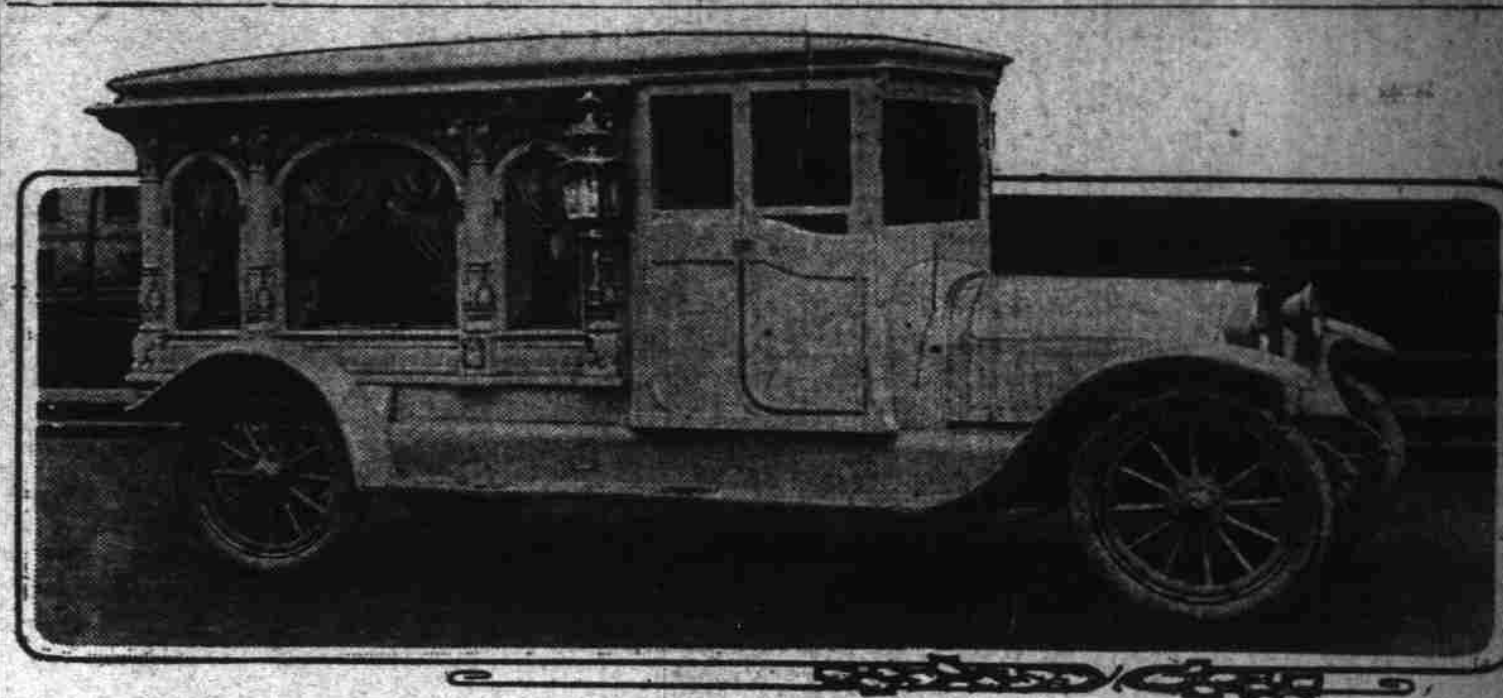
Today American romance battles in overalls, conquering and directing nature into channels that best serve mankind. Bibbs Sheridan in "The Turmoil" sang at his work because he found romance in directing a machine that relentlessly chewed strips of wire into little disks all day long. At the Studebaker automobile factories in Detroit, men find romance in machines that are equally interesting and often absolutely superhuman.

Romance lingers with the village blacksmith who still beats the horseshoe at the flowing forge beneath the spreading chestnut tree; and for those with eyes to see, romance looks over the shoulder of the controlling genius of the immense heat-treating furnaces of the Studebaker Corporation, the direct and mighty descendant of the village smith. Science talks in the terms of romance when it speaks of the steel in Studebaker automobiles. Steel may be sick and require doctoring; steel may be too hot or too cold at a temperature of 1000 or perhaps 2000 degrees; steel may need to have its fever quenched in oil or in water, and then go into the furnace once more for further treatment.

Heat Treatment Secret.
The forgings of the village smith could be as primitive as the art itself without serious consequences to the work in hand, but think what such a hit-or-miss method would mean to an automobile! A defective part might mean death to the occupants of a machine. Long experimentation in the Studebaker plant and elsewhere by other leading scientific establishments has established the fact that certain steels require certain definite degrees of heat if the best results are to be obtained. Only by its heat treatment is Studebaker able to secure the combination of strength and lightness found in its vanadium and other steels.

For example, take a cam shaft. It must have exact, scientific heat treatment. A man seated before a number of dials with levers below—electric pyrometers, or heat gauges—glances from one to another and occasionally touches a lever that sends a trembling hand on a dial one way or another. What romance is there in this? What great adventure in sitting in a place so quiet, so clean, so seemingly unexciting? But think what in imagination this man sees!
The hand on a dial sags back to 1500 degrees. Instantly the master mind sees a cooling furnace that means

FIRST CAR SHIPPED THROUGH CANAL



Hearse sent to Vassar & Bros., Lewiston.

Even the automobile business is benefited by the recent opening of the open river from Portland to Lewiston. The honor of having shipped the first machine after the canal opened goes to the Studebaker corporation.

peril—danger. The steel shafts it is heating must be maintained at 1530 degrees. Instantly a controlling lever is shifted. With his eyes on the gauge he sees the hand creep back to 1530 degrees before he releases the lever. Studebaker uses 58,000,000 cubic feet of gas a year, most of it in these mighty furnaces that treat the steel.

Process Is Careful.
What knight errant protecting the defenseless from the aggressions of injustice and greed has better served the world than this man whose very task breathes the sweet air of duty faithfully performed in protecting the defenseless? For after all, an automobile is bought on faith, faith in the integrity and the honesty of the man

factory and all the men who serve him. The purchaser is defenseless, and the true knight errant in these days of romance is the man who recognizes that fact and who stands ready to keep faith with that faith the buyer has in him.

So the Studebaker cam shaft goes through one heat treatment after another after it is forged until it has had five. The first after-forging relieves the forging strains, that is, the piece is heated to 1025 degrees Fahrenheit so that all fissures or cracks in the grain caused by the terrific blows of the hammer run together—weld, so to speak—and close up.

This heat-treating process is a very careful one, for it determines the final

interior grain structure of the shaft. After this treatment it is quenched in water, and when it comes out it is very hard. It is then heat-treated again very slowly, and allowed to cool slowly. This heat treating is not intense enough in any way to change the grain of the steel. It does, however, alleviate the hardness, so that the piece may be ground by emery wheels.

And all these Studebaker processes mean that romance still lives, but that it is seen only by those who have eyes to see.
Toothed wheels revolve and break the clinkers in an ash sifter patented by its New York inventor.



Perfectly Poised at All Speeds

THE first quality you notice in Cole Eight when you get it on the road is its unusual poise—no side-swerve, no tendency for the rear wheels to leave the road or bounce about. This is due to three things—the steadiness of the motor, the car's low center gravity, and the Cole direct spring drive suspension, which amounts to a built-in shock absorber.

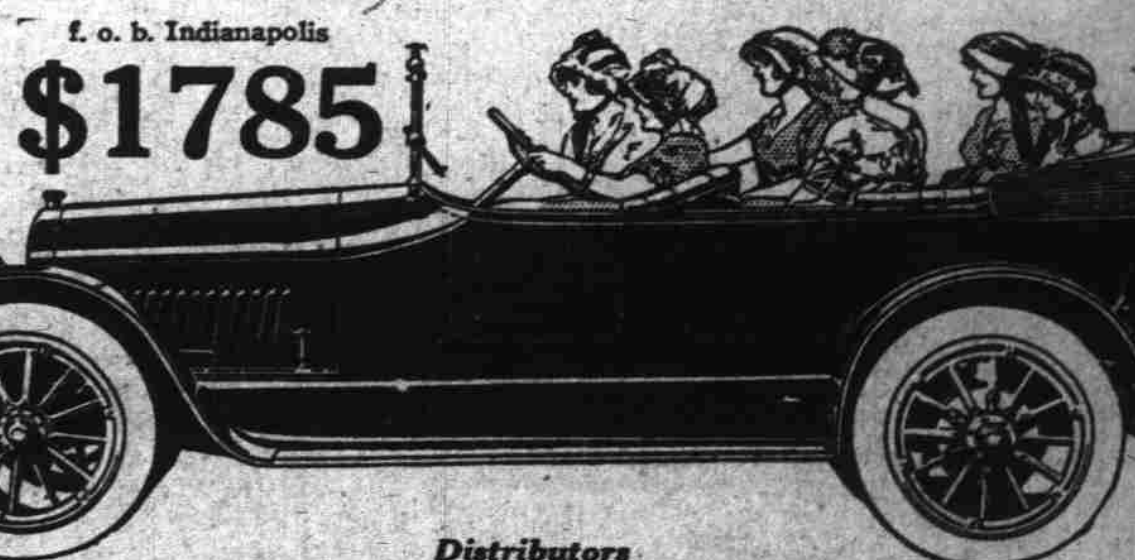
The driver of a Cole Eight car enjoys the ride along with the others—he doesn't have to hold himself always ready to shift into second or to put on the brakes for the bumps. The peculiar poise of Cole Eight emancipates him from strain—mental and physical—and the other passengers from jars, jolts and jerks.

Cole Eight has full seven-passenger capacity, a wheelbase of 126 inches, weighs less than 3500 pounds, road ready, and in it all of the modern luxuries of motor car design are included.

Such as aisleway front seats, out-of-the-way auxiliary seats, tire pump operated from the driver's seat, and electric starter worked by a simple small foot button. Everything about Cole Eight is simple and get-at-able.

Cole Eight either in traffic or en tour astounds you with its new delights.

COLE MOTOR CAR COMPANY, INDIANAPOLIS, U. S. A.
Builders of the Standardized Car



Distributors
Northwest Auto Co.
F. W. Vogler, President
Main 887 BROADWAY AT COUCH A-4959



It May Be

That you need some good automobile supplies. Diamond tires, giving excellent service and are much cheaper. Less than 25 percent come back for adjustment. Master carburetors are making good. Guaranteed saving on gasoline 15 to 25 per cent and more power.

ARCHER AND WIGGINS
OAK STREET, CORNER SIXTH.
"Many Things for Automobiles."

Touring Necessities

Trunks, Gloves, Lunch Kits, Dusters, Thermos Bottles, Etc., Etc.

BALLOU & WRIGHT
Broadway at Oak

AUTOMOBILE AND SHOP SUPPLIES
Spark Plugs TOOLS Brake-Lining
MOTORCYCLES AND ACCESSORIES
Preer Tool and Supply Co.
74 Sixth and 311 Oak Sts. Phone—Main 1632, A-1632
Diamond TIRES
Vulcanizing and Retreading. R. E. BLODGETT, 29-31 North 14th, near Couch Phone Main 7005

READ THIS TELEGRAM

A. C. Stevens, Manager, Portland. Sell every used car you own at \$100 to \$500 lower than the lowest price quoted by any other dealer on the coast. Make this sale the chance of a lifetime for Portland people to get high-grade cars at absolute rock-bottom prices.

THE WINTON COMPANY.

Cleveland, May 29, 1915.

THIS TELEGRAM HAS STARTED THE GREATEST AUTOMOBILE CUT-PRICE BARGAIN SALE

ever held anywhere. See these cars today. Try them. Name your own price. Be a high-grade car owner NOW. Save hundreds of dollars.

Open Evenings Until 9:30.

THE WINTON COMPANY
23RD AND WASHINGTON STREETS, PORTLAND