

# USED AUTO BARGAINS

1915 CHEVROLET roadster, Amberg Special, very attractive.  
 1915 MITCHELL touring car, 7 pass., electric equipment.  
 1915 JEFFERIES touring car, used very little.  
 METZ runabout, extra tire, \$200.  
 STUTZ touring car, worth owning.  
 1914 BUICK roadster "244," just like new.  
 1914 PACKARD "25" touring, wonderful shape.  
 1916 OVERLAND touring, big reduction.  
 1916 BUICK touring car, run 2000 miles, \$650.  
 1916 IMPERIAL roadster, brand new.  
 1916 FULLMAN touring, upspeed very little, at a saving.  
 1914 BUICK touring car, electric equipment.  
 CHEALMERS light touring, \$300.  
 OVERLAND roadster, five good tires, \$150.  
 1915 CHALMERS touring, at a big reduction.  
 Hundreds of other make touring cars, runabouts, roadsters, limousines and coupes. Trucks and Delivery Wagons, from 1000 lbs. to 2-ton capacity.

Gorson's Automobile Exchange

238-40 N. Broad St., Philadelphia

## Studebaker Cars Had Runs in Every State This Week

The greatest and most remarkable automobile reliability run ever attempted by a manufacturer began Monday in nearly every State of the Union and continued four days. The cars used in the test were regular stock, taken from models the dealers participating had on hand at the time the run was arranged. All the cars engaged in the contest were 1916 Studebakers, not one of which had been "tuned" up for the event.

Each car was to cover 250 miles per day, making in the aggregate 1,000 miles. Everywhere, according to reports received by the Studebaker Corporation, an unusual degree of interest has been manifested, great crowds turning out along the courses selected to watch the cars speed by.

In some of the States rain put the roads in the worst of conceivable conditions, but perfect scores were registered, notwithstanding. The average running time for the 250 miles was eight and one-half hours, though the Lansing, Mich., dealers covered 253 miles in exactly seven hours time. The speed maintained ranged from 27 1/2 miles per hour to in excess of fifty miles, the latter being a temporary calling off limits.

A 1916 Studebaker Four was used at Syracuse, N. Y., and made the required distance in eight and one-half hours. The highest speed attained by this car was fifty miles an hour, and nearly one hundred miles was over unimproved roadway, through hard rains.

## Knight Motor Advantages Demonstrated by Pictures

H. H. Hower, who entertained a large audience at the Engineers' lecture room Thursday evening with an illustrated lecture on the Willis-Knight sleeve-type motor, said in part: "The design and operation of the valves largely determine the success of any motor. The valves must open fully, to permit a maximum quantity of fresh gas to enter the cylinders and to allow 'dead' gas to leave the cylinders; they must be tightly closed to prevent any gas entering or leaving the cylinders when gas is being compressed and when the explosion is taking place. And they should always open and close at exactly the right time.

"The wide opening and positive closing of its sleeve valves make the Knight motor superior to motors of all other types.

"In general, valves in automobile motors are of two kinds—poppet valves and sleeve valves, the former being in most common use.

"A poppet valve is opened by a cam—a projection on a revolving shaft—which strikes it upward as the revolution of the shaft brings the cam into contact with a push-rod below the stem of the valve. It is closed by a spring.

"In the Knight motor there are two sleeves—round shells of cast iron—in each cylinder, operating between the cylinder wall and the piston—one working within the other. Each of these sleeves is raised and lowered by a connecting rod from an eccentric shaft. This eccentric shaft is operated the same as the camshaft in a poppet-valve motor.

"In any mechanism the simplest design is invariably the most efficient. The fewer the parts, and the simpler the operation, the less chance there is for friction and wear. It is for this reason and because positive action is to be preferred, that engineers never use springs and cams as an important part of any mechanism except as a last resort.

"Consider now the construction of the Knight type sleeve-valve motor, as compared with an ordinary poppet-valve motor:

"There are no stems in the Knight motor to warp and wear—no springs to weaken—no valves to pit and require constant grinding—no adjustments to make.

"The sleeve valves operate with positive mechanical precision at all speeds. Their operation is as positive as the valves in a steam engine.

"The operation of the poppet valve is a constant hammering of steel on steel, which occurs at all places—the cam against the stem and the head of the valve against its seat. And the hammering occurs when the valve is subjected to an intense heat, for its head is inside the combustion chamber.

"Because of this hammering, the very operation of the poppet valve itself causes it to warp and loosens the valve in its seat.

"There is no hammering in the Knight type motor. The sleeve valves are raised and lowered by connecting rods. Their action is regular. They slide smoothly, between the piston and cylinder wall, always covered with a film of oil.

"In a poppet-valve motor compression is held by the valves. The valves operate against springs, and against the resistance of gas. And to hold compression the valves must fit tightly.

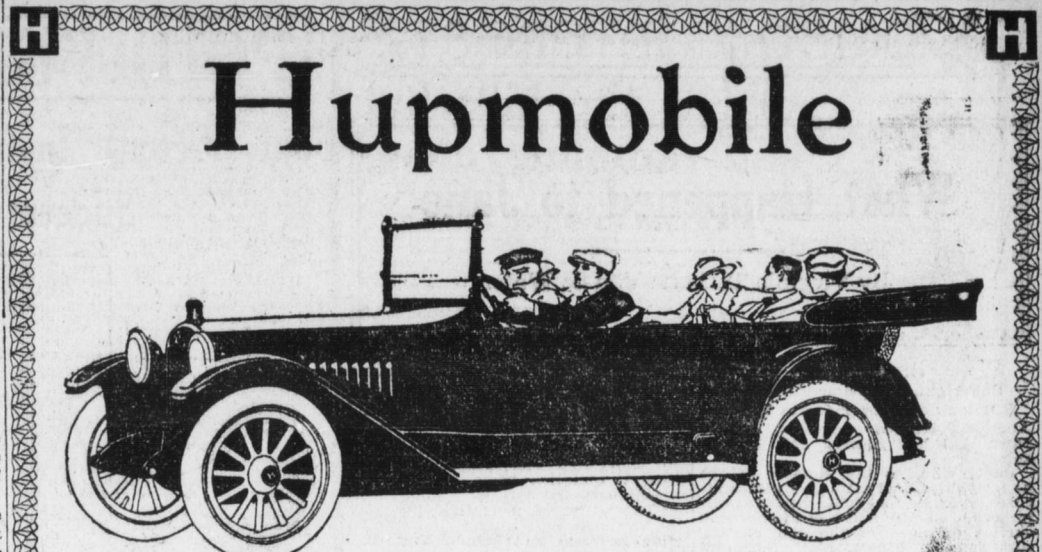
"Unlike the valves in a poppet-valve motor, the sleeves in the Knight do not operate against springs nor against the pressure of gas in the cylinders, for the sleeves in the Knight do not hold compression. Because of this the sleeves are not fitted tightly; their surfaces are always covered with a film of oil and their whole travel is less than one inch, at half the speed of the motor—one-ninth of the piston travel; the friction resistance and wear is negligible.

"Wherever an explosion takes place, carbon is formed. In a poppet-valve motor this carbon deposits on the heads of the pistons and on the seats and on the heads of the valves.

"This deposit of carbon eats into the valves where they seat. This is known as 'pitting.' And 'pitting' of valves is one of the most common troubles experienced with poppet-valve motors, for this eating away causes leaky compression.

"Carbon, which forms so rapidly in a poppet-valve motor as to seriously affect its operation and, therefore, necessitates frequent cleaning, is barely noticeable in a Knight type motor, even after two or three years of service.

"What little carbon does form is beneficial. Indeed, the sleeve valves in the Knight motor are designed to encourage the deposit of carbon. To



# Hupmobile

## ANNOUNCEMENT

To our old customers and prospective new ones—

We are pleased to advise we are now prepared to make immediate deliveries on all models.

Ensminger Motor Co.  
Cor. Third and Cumberland Streets  
SERVICE STATION—1122 Green St.

## PLEADS FOR CO-OPERATION IN HANDLING OF MAIL

Washington, D. C., Nov. 20.—Co-operation of the public in the handling of the Christmas mails is sought by Postmaster General Burleson, who, in anticipation of another record-breaking

rush of holiday parcels, to-day sent out instructions to postmasters for the quick and effective dispatch and delivery of such matter.

Persons are advised to be sure their Christmas mailings early. Mr. Burleson is confident that if the public will aid to that extent the holiday mails will be promptly and efficiently handled.

## Doors on Jackson Open by Touching a Button

"Where are the door catches? How shall we open the doors?" queried a customer of a local Jackson dealer, as he looked at the new Jackson model "24." Then, on closer observation, he became aware that instead of the usual catch or lock, the Jackson is equipped with a new type push button, countersunk in a neat metal frame flush with the door. Pressure on this button immediately opens the doors.

This does away entirely with any chance of tearing dresses, pockets, etc., in the catches and removes the risk of doors being accidentally opened. These door latches are of the very latest type and rock on a pivot instead of sliding back and forth in their sockets. Moreover, the doors are so equipped with rubber bumpers of the "L" type that when closed they are held tight in both directions and cannot rattle. This is one of the many little refinements denoting care and attention to details that pleases buyers.

## Prosperity Throughout Country Says Willman

George L. Willman, assistant sales and advertising manager for the Studebaker Corporation, has returned from visiting the larger distributing agencies for Studebaker in the Middle West and Southwest. Mr. Willman took advantage of every opportunity for sizing up the business situation of the different territories and comparing in his investigations what he could hear and see.

"Nothing," said Mr. Willman, "could apparently have been more pleasing to the agencies I visited than the telegraphic messages that were sent to me, than the orders for Studebakers that were shown me at different points I visited. Dealers who have already gone above their contracts told me that with the assurance Studebaker could promptly take care of additional orders within a reasonable time, they would now book orders which require little more proceeding than that of signing up.

"This condition with the automobile business, and prevailing as it seemingly does with other lines, can indicate only that these United States of America are riding on the crest of a wave of unprecedented prosperity. Insofar as I can recall, it is the first time in the history of this country that every part of it has been prosperous at the same time. I have been all through the corn belt, and this year's crop will be the most valuable the country has ever produced. The frost which came, per schedule, was so light that its effect was helpful, more than anything else.

"The cotton crop may not come up to its usual size, but the price is right for the planter, which is more consoling than an overproduction. It is simply a case of every one of forty-eight States congratulating one another on bright skies and sunshine, and 'business is good, thank you,' all around.

"Advertising has been the most po-

## Used Car Bargains

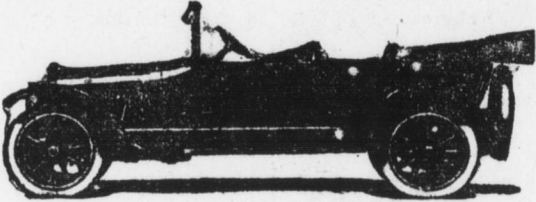
Our used cars include:  
 1914—Chalmers "Master Six."  
 1913—Hudson "Big Six."  
 1914—Hudson "Light Six."  
 1914—Michigan 5-passenger.  
 1912—Overland 5-passenger.  
 Also rebuilt Cadillacs of all models.

## Crispen Motor Car Co.

413-417 S. Cameron St.

## The Chandler Owners Have Christened It The Six With a Marvelous Motor

Their experience has pointed out to us this great selling point, the distinctive superiority of the Chandler Motor.



The Chandler motor is the finest American development of the long stroke principle. It is perfectly designed, beautifully made, precise as a watch and it is powerful. In it, and on it, you will find every high-grade feature of the costliest sixes.

CHANDLER SIX  
\$1295

ANDREW REDMOND

Distributor

Third and Boyd Streets, Harrisburg, Pa.



## A Real Live Automobile Service

Mr. Automobile User—Our business is storage batteries. We are specialists. We will recharge, repair, care for or replace your battery. We will do the work promptly and at the right price. We are the local Distributors of the

## "Exide" Starting Battery

The "Exide" is the most widely used automobile battery in the country. There are over 200,000 cars equipped with "Exide" Batteries for starting and lighting.

Remember our service is prompt, reliable and courteous. Let us serve you and serve you well. Stop around and get acquainted.

Excelsior Auto Company

Harry L. Myers, Mgr.

## FRANKLIN

Ensminger Motor Co.

Third & Cumberland Sts. DISTRIBUTORS

## See 1916 PAIGE 6-46 \$1295

A central location has been arranged where we will display the new 1916 model to the best advantage, and where literature or other information may be had on request. This beautiful model commands the admiration of all who pass the window of Bretz Bros. Hardware Store.

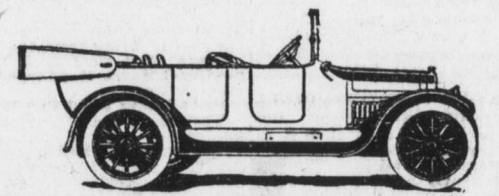
109 Market Street

RIVERSIDE AUTO CO. Bell Phone 3731-II. GEORGE R. BENTLEY, Dealer.



## Cadillac "Eight"

The envy of the man who can't afford the Cadillac price. The selection of the conservative man who "looks 'em all over." The choice of thousands who can afford the highest-priced cars.



Standard Seven-passenger Car, Five-passenger Salon and Roadster, \$2080. Three-passenger Victoria, \$2400. Four-passenger Coupe, \$2800. Five-passenger Brougham, \$2950. Seven-passenger Limousine, \$3450. Berlin, \$3600. Prices include standard equipment, f. o. b. Detroit.

Crispen Motor Car Co.

413-417 S. Cameron St.

## Bringing Up Father

By McManus

