

IMPROVEMENT IN MOTOR CARS IS SHOWN FOR 1912

Higher Development in Late Construction Demonstrated—Progression Greater Than Ever Before.

There are many evidences to show that motor cars for the 1912 season will be found higher developed than in any previous year. The improvements are not only detailed but principles as well have been changed, and to a degree that perhaps would not have been believed possible by many who have felt that motor car development was reaching the limit of its progression. As a matter of fact, the changes from one season to another have never been so important or as many in any previous year as are contemplated for 1912.

The Columbia car with the new Knight motor is a good example of this higher development and new thought. Much that has gone before and accepted year after year is now swept away and a complete new system of entrance and exhaust of explosive gas is provided for one thing, while unheard of lubrication efficiency is demonstrated for another. Hardly any changes have come in valve mechanisms since 1905, when mechanical valves became general and the automatic or suction type inlet was abandoned.

Parts Reduced.
In the Columbia Knight motor the whole scheme of cam-operated push rod, mushroom or tappet type valve is eliminated, the train of front engine gears is cut out and the number of parts reduced about one-third. The valves in the Columbia silent Knight type motor are slide valves operated by a half time shaft which is driven by a German type of silent chain. The motor is of the four cycle type, the regular suction, compression, firing and scavenging strokes following in succession as in a tappet type four stroke motor.

There are two sleeves with large area ports cut into each end of the cylinder. One comes into register one with the other when they are reciprocated by the action of the half time shaft. This accomplishes a noiseless valve arrangement, provides twice the valve opening area for the entrance and escape of gases and allows the use of a compression chamber design having less cylindrical contents and therefore a very much greater measure of power is obtained. While the new Columbia Knight motor has the cylinder dimensions to indicate a torque horsepower of 35 under the A. L. A. M. rating rule, the fact is that 71 horsepower is realized without motor racing and a maximum horsepower of 85 is reached.

New Oiling System.
The advance in motor designing is also shown in the Columbia oiling system, which has been further refined and progressed. This system is a combination pressure and splash and since it was introduced in Columbia cars has become known as the Columbia movable dam system. The crank case dams are arranged that they may be raised or lowered so that the connecting rods scoop deep enough into the troughs if the speed is fast or the work hard as in hill climbing, while the dams are lowered automatically when the work is light, as in ordinary travel.

This is accomplished by connecting the troughs immediately below the connecting rods and placed transversely with the crank case on pivoted ends, and connecting them with bell cranks directly to the throttle. When lowered with a slightly opened throttle the dams easily overflow and the scoops touch but lightly. When the throttle is opened wide the dams are raised and thus contain more lubricant while the raised troughs allow the scoops to dip deeper and thus cause more oil to circulate in the splash system.

Interesting Features.
The Columbia Knight motor presents a light and neat appearance, so simple and ingenious is the planning. The fact that the cylinder heads are bolted on and may be readily removed for easy cleaning is a feature sure of appreciation by motorists and the water jacketing system is so complete that a practically even temperature is met up and down the length of the cylinder wall.

The use of engaging gears is dispensed with in the motor since not only the lay shaft but the magneto and pump drive are, too, by the German or Coventry type silent chain.
While the Knight type motor is new and is representative of the advanced thought, its wide foreign use commends it to respectful attention. The English Daimler and Rover cars in Great Britain, the Panhard in France, the Mercedes in Germany, Minerva in Belgium and Italian Daimler cars, have each accepted it and for three years it has been the sensation abroad, echoes of which have floated back to this country, where it was conceived by C. Y. Knight, and there is every promise of its great success in America.

Machines Given Rigid Tests



Washing autos after a hard durability run, at Hudson Motor Car Company's factory in Detroit.

Few purchasers have any idea of the strenuous tests to which their machines are subjected before they get them. At a first class factory, like that of the Hudson Motor Car company in Detroit, the whole machine is tried out against the hardest conditions obtainable, so that any defect may be remedied before it is too late. For hours each machine is driven at top speed up and down hills, through mud, sand, water, and snow if possible. When it comes back it is caked with mud and oil and must be washed.

At the Hudson factory, it is washed at least six times—with water to remove the worst dirt, with steam to clear out any superficial dirt that may remain, with soft soap and water to remove the sticky dirt, with steam again, with gasoline that eats out the last

particle of grease, and with hot water again. If any of these washings is done imperfectly, trouble results when the paint is applied.

At first the men who did the washing wore rubber boots, but these soon proved unsatisfactory. The gasoline quickly ate holes in them, making it very expensive to keep the men supplied. The Hudson tried various substitutes and finally hit on wooden shoes, each as big as a small keg, with sides and bottom from 1/2 to 1 1/2 inches thick. The strapping six-foot negroes who wear them first encase their feet in loose huge of soft paper, then wrap them with rags to make a tight fit, and finally bind a loose piece of tarpaulin about their ankles. This done, they defy both water and steam.

reigned supreme all along the route. The Kirt car was the last to leave Fargo and the Hupmobile just ahead. Most of the little cars are showing marked endurance. Tired by strain of

two days' automobilism in the tour, Mrs. Dutton, Miss Loftin and Mrs. Fox today took advantage of the comforts of the Hotel Train. This leaves Mrs. Herety, an elderly woman, the only

one of her sex in the run. The tourists will arrive at Devils Lake this evening. Tonight, tomorrow and tomorrow night will be passed sightseeing at Devils Lake.

Mr. Henpeck—Are you the man who gave my wife a lot of impudence?
Mr. Scrapper—I reckon I am.
Mr. Henpeck—Shake! You're a, hard.
—Path Finder.

ALL THAT THE NAME IMPLIES

SILENCE PEERLESS COMFORT

"48-SIX" SEVEN PASSENGER

Announcement

The 1912 models include Four-Cylinder and Six-Cylinder cars of horse-power and carrying capacity to suit almost every requirement.

SIX-CYLINDER	Touring	Phaeton	Torpedo	Limousine	Landulet	Berline-Limousine
38-Six	\$4,000		\$4,000	\$5,000	\$5,100	\$5,200
48-Six	5,000	\$5,000	5,000	6,000	6,100	6,200
60-Six	6,000	6,000	6,000	7,000	7,100	7,200

FOUR-CYLINDER						
40-Four	\$4,300	\$4,300	\$4,300	\$5,300	\$5,400	\$5,500
24-Four				4,200	4,300	

These models are distinguished by new types of Fore-Door Bodies, individual in design and built very roomy and comfortable, for both open and enclosed cars.

Among the important conveniences of the 1912 Peerless are the Power-driven Tire Pump for easy and cleanly inflating of tires and the Dynamo Electric Lighting System, which supplants the gas tank and oil lamp, affording a brilliant, effective light for every lamp on the car.

We are now prepared to accept orders for early delivery. Demonstrations by appointment.

H L Keats Auto Company
Seventh and Burnside Streets Portland
Dealers also in Peerless Commercial Cars

"38-SIX" FIVE PASSENGER "40-FOUR" SIX PASSENGER TORPEDO

making a resting place for the night in a convenient spot by the road or on the banks of a stream.

The east might take a lesson in long distance touring from the west, particularly California, for the motorists there seem to have gone into it with even more enthusiasm than is apparent in the east and the middle west. Out in California, we are informed, Cadillac owners are making up parties, some with as high as 15 cars, for the purpose of visiting the points of interest throughout the state.

AUTO TOURISTS ENJOY SCENERY

Twin City-Helena Run Stirs Up Much Enthusiasm—Women Tire of Ride

Thieving Spiritualist Escapes.
(United Press Special Wire.)
Boston, July 22.—Robert Sinclair, alias H. Robert Moore, a spiritualist wanted in Oakland, Cal., for stealing \$700 from Mrs. Walter Benzen, escaped from the police here today when they attempted to arrest him.

Elephant's Leg Dedicated.
(United Press Special Wire.)
Marinette, Wis., July 22.—While pushing a chuck cart along a muddy street, Jumbo II, a big elephant belonging to a circus showing here, slipped, fell and dislocated a hind leg.

Grand Forks, N. D., July 22.—With ideal weather the third day's run of the Twin City-Helena automobile tourists left Fargo and spent an hour in Grand Forks. The cars arrived here after passing 15 minutes in Crookston as guests of the Automobile club there. Roads this morning were above the standard set the first two days contrary to predictions. The Great Northern hotel train beat the autoists from Fargo to Grand Forks. Enthusiasm

METZ

1911

\$525

12 H. P., 2 cylinders, complete as shown, including top with slip cover, oil and gas lamps and generator, Bosch magneto. A few second-hand machines (used by canvassers) \$350

We are also now ready to demonstrate the 1912 Metz "22"—four-cylinder, water-cooled, complete with top and lamps, \$675. Orders booked for future delivery.

Mitchell
LEWIS & STAYER CO.
E. Second and Morrison

SUMMER MOTOR TOURS POPULAR

Present Season Promises to Be Greatest in History of Country.

"This promises to be the greatest summer for automobile touring that this country has ever known. If we may judge the general trend of reports from Cadillac owners," says Sales Manager E. R. Benson of the Cadillac Motor Car company.
"During the last two weeks, we have had dozens of letters from Cadillac owners, telling us that they contemplate trips of anywhere from a week to a month, and not infrequently longer in duration. In addition to this, almost every Cadillac representative who has been at the factory in the past month—and I have seen nearly all of them—tells us of other owners who have started on tours, or are planning them."
"All of this is a very good thing for the states through which the tourists will pass. I say this, because in the past, the automobile has done more to forward the good roads movement than any other single agency; and as the number of tourists increases, so this influence is bound to increase."
"It points to another thing—the more general recognition of the motor car as a means of seeing the country in the most pleasant and unrestricted way. Many a touring party is independent of towns and hotels, carrying with them tents and other camping necessities and

Cartercar Announcement

WE ARE now in our new location, 35 and 37 North Seventh, near Couch street, where we will continue to care for the many owners of "Cartercars."

☞ We cordially invite you to call and inspect our new quarters.

☞ The 1912 model will be on display about August 1.

☞ In the meanwhile we would be glad to give you a demonstration and have you be one of our many satisfied owners.

Cartercar Sales Co.
Phone Main 2320, A-7207