NEW TYPE ENGINE AT THE AUTO SHOW

White Company Introduces Four-Cylinder Car With Sixteen Valves.

NEED NO MORE CYLINDERS

To the motorist who is interested chiefly in mechanical things, the one improvement of a fundamental character to be seen at the automobile shows this season is the sixteen-valve type of four-cylinder engine which features the exhibition of the Nebraska White company in the palm room at the Automobile show this week.

This new type of engine does not change the function of the four-cylinder type of engine in any way, but it introduces a double valve principle which makes the four-cylinder motor capable of any performance obtainable from other types. Also as interesting as the valve design itself, is the fact that new extremes of motor car performance are now secured without surrendering the simplicity and ruggedness of the four-cylinder motor.

Valve Efficiency Vital.

The White company asserts that valve efficiency is more vital than the number of cylinders and also contends that any power and flexibility which has been secured heretofore by multiplying the cylinders can be produced in a more effective and satisfactory manner by increasing the valve capacity of the "four."

Engineers of this company say that the wide flexibility and rapid acceleration of the multi-cylinder motor are due not to the high frequency of explosions, nor to the overlapping power strokes, but to the high speed of the engine in conjunction with a low geared rear axle. This being apparent, the company two years ago announced its determination to adhere permanently to the four-cylinder type of motor and to bring this type to its ultimate and final form. The sixteen-valve "four" therefore is the culmination of a definite policy of engineering research.

By using a double set of valves in each cylinder, a counter-balanced crankshaft and lighter reciprocating parts, the company has produced an extraordinary powerful engine of the high speed type, which is claimed to match any performance within the experience of motor car owners today. Every demand for fast getaway, hill climbing ability or flexibility is more than satisfied in the new type, proving that it is possible for a highly developed "four" to equal any other type in any kind of a test.

"WOMAN CAN'T BE A FRIEND."

Gotham Psychologist Puts Out a Theory Regardless of Consequences.

Charles Gray Shaw, professor of philosophy at New York university, has devoted considerable time and effort in research work on the problem of "can a woman be a friend and, if not, why not?" Today he made public the results of his study.

"She cannot be a friend," Prof. Shaw announced, "for although the word is given in both genders, the fact alone is masculine. The reason for this state of unfriendliness in woman is that to be a friend a clear-cut personality and a disinterested outlook on life are required. Woman lacks both of them. Woman is never a friend because she is never an individual, and to be an individual one must stand alone. Woman is a planet—a satellite—well adapted to revolving around some center, but not organized so as to stand alone.

"Men's clubs, of which they are so proud, are combinations made for kill-ship. It is a hothouse for tender plants."—New York Times.

Thomas Edison and Detroit Electrics

"DON'T SHOOT PHONE GIRL"

Pertinent Remarks on the Value of Courtesy in Speaking in the Dark.

To speak to a telephone operator is like speaking in the dark to a stranger. In such a situation courtesy would seem to be the first rule of the road. Unfortunately, courtesy is not invariably the tone which people employ with telephone operators.

During one of the national conventions, something went wrong with the wires; messages were delayed and mixed; offices and correspondents were losing their tempers. In the midst of it, James Morgan, with that imperturable humor of his, sent back to the Boston Globe a telegram bearing merely the words that were born in the dance hall of a western mining town:

"Don't shoot the pianist. He is doing the best he can."

Don't bully the telephone operator. She is doing the best she can. If she were not she would not be where she is. Being a telephone operator in these busy days is no sinecure.

The silliest place to lose one's temper is into a transmitter. It is the most cowardly place, also. To abuse a telephone operator (who is a long way off, a woman and an employe) is about as heroic sport as shooting robins. The operator cannot get her tormentor discharged. She cannot even answer back. Discipline forbids. —Boston Globe.

HE LINKED TWO CONTINENTS

Last of the Cable Pioneers Recalls Romance of Sea Communication.

One pioneer only is left linking the early days of the transatlantic cable with these days of "week-end cable letters" on private matters and innumerable lengthy cablegrams telling the western hemisphere of the stirring doings and the European war's confusion in the eastern hemisphere.

The one remaining link is W. J. Fraser, now district cable manager of the Western Union Telegraph company. He lives at Brookline, Mass., with his son-in-law and daughter. Mr. Fraser is 71 years old.

When he came across the ocean in 1874 and established his headquarters at Rye Beach, N. H., cable messages cost $5 a word, and less than twenty words at a time were never accepted by the sending company.

Today the cheapest cable service offered is week-end letters from our Atlantic coast to London and Liverpool at a rate of twenty-four words for $1.15, with an excess charge of 5 cents a word. Week-end letters may be filed up to midnight Saturday, and will be delievered Monday morning.

The contrast in times also is illustrated by an anecdote Mr. Fraser tells of a message from Queen Victoria to President Buchanan in 1858 of about 100 words, which consumed two days in the sending. Today a normal cable operator can average 100 words a minute in transmission.

In 1874 Mr. Fraser, with four other operators—B. J. Gee, Hugh Osborne, Arthur Frost and James Brown—employes of the British Postal Telegraph company, came across to work for the Direct United States Cable company. Mr. Fraser and Mr. Brown opened the station at Rye Beach.

The death of Mr. Osborne not long ago at Orleans, where he was superintendent of the French Cable company, makes Mr. Fraser today the last of the cable key pioneers.

As a watch charm he carries the only existing fragment of the first transatlantic cable in 1858.

Enringed in a gold circlet, it is a cross section, eleven-sixteenths of an inch in diameter and one-eighth of an inch in thickness. The core, six copper wires entwined, is only one-eighth of an inch in diameter. The encasing is gutta percha, which, in turn, is enveloped in a casing of iron wires. The whole, appearing about the size of a dime, he has carried for twenty years.—Boston Globe.

ELECTRICITY DEFIES WINTER

Modern Monsters Outclass Steam Locomotive in Bucking Mountain Cold.

A writer in Leslie's, describing the winter work of the electric locomotives on the Milwaukee's mountain division, tells how forty-two of these lightning-consuming monsters are defying the cold and snow. Their motors are always ready to start, and really work best in cold weather. Frozen pipes and snow drifts have no terrors for them.

One electric takes the place of four steam pullers. It towers above you like a black steel giant. It weighs 600,000 pounds, and is 113 feet long. It has thirty-two wheels and, having no flues to clean or boilers to inspect, it runs a thousand miles without overhauling. No smoke, gas or cinders make the tunnels and snowsheds unpleasant and offensive.

Crossing the Continental Divide, these motors are now operating for a distance of 330 miles from Alberton to Harlowton, and in February will be running 110 miles farther to Avery, Idaho, a total of 440 miles. The Missouri at Great Falls, Mont., furnishes much of the power. And when the electric is running down grade, the power is regenerated by gravity. The restored current actually sets back the power company's meters and credits the railroad with the gain. Steam cars do nothing like this.

But in the cities our greatest interest in these electric pullers is in their promise of relieving crowded centers of smoke, cinders and noise. New York has been blessed by this exemption, and it is but a matter of time when other cities, more or less patient sufferers now, will be relieved by the electric locomotive of these evils. There is no tendency to hurry the railroads, overburdened as they are by the growth of traffic and by the freight and terminal situation generally. But the reform is on its way, and everybody is interested in what the electric locomotive can do and is doing in the intense cold and deep snows of the Rocky mountains. —Minneapolis Journal.

PAINLEVE TAKING ISSUE WITH EDISON

French Inventor Takes Position Wireless Has Played Important Part in War.

POINTS OUT INSTANCES

(Correspondence of The Associated Press.)

Paris, Feb. 10.—Painleve, a member of the French institute, eminent in mathematics, deputy for the Latin quarter, and until recently minister of public instruction and inventions, says that Thomas Edison "was rather severe in his judgment when he expressed in a recent interview his surprise that science had played so small a part in the war."

"The most important scientific applications made since the war began are still military secrets," said M. Painleve to The Associated Press. "When it is all over and details of new inventions and new developments of old ones, discovered and put into practice, used at the front, may be revealed, I think Mr. Edison will revise his opinion and that the world generally will admit that science has done its part.

Armies Rival One Another.

"To mention only isolated cases, the processes of wireless communication and for the registering of sounds at distances, that is by the ordinary wireless currents and by ground induction, have been marvellously perfected through the requirements of the war. All the armies are rivalling each other in skillful methods for tapping the enemy's lines of telephonic communication from a considerable distance; not tapping as it is generally understood, but by the use of a marvellous instrument that enables the sentinel in his advanced listening post out beyond the front line of trenches to hear the enemy communications by telephone going over wires that are several hundred yards away."

"No more than an allusion to these things may be made," said M. Painleve, who, as minister of munitions, organized a veritable mobilization of scientists and scientific laboratories in France. The technical sections of his ministry collaborated with inventors to bring to practical use the interesting propositions that were found worth considering. He himself presided over a special commission of men of science, charged with the examination of all new inventions and processes proposed for use in the national defense, and must consequently be regarded as in a better position than any other man in France to know what science has done for the war.

System is Perfected.

"I would mention also," he said, "a system that we perfected and put into use for locating the enemy's batteries by sound. The principle was known before the war, but it was regarded as impracticable. It has, since the war, been brought to the highest state of perfection and efficiency and for months has been in use over the entire front. It has proven so effective that our adversaries, who captured a motor car with one of the outfits, have equipped themselves with similar appliances, but lacking the delicacy and the precision of our instruments. It was France that had the entire iniative of this brilliant application.

"Inventions for following the enemy's sapping and mining operations by sound that were, in all armies, very crude and insufficient before the war, have made the most remarkable progress and will reflect honor upon French science later on.

"Aviation in every respect has been remarkably perfected by the efforts of science and technicians since the war began. Today a pilot goes up in all kinds of weather without fear of being upset by sudden squalls, so well have been perfected the measures for the stability of flying machines. Great progress also has been made in the improvement of motors, particularly in the reduction of their weight in proportion to their effective power, so that they speed up to 150 miles an hour. Finally in spite of the difficulties, wireless telegraphy has been marvellously adapted to aviation."