

WHAT WILL BE TYPE OF FUTURE ENGINE?

Here's One Expert Who Looks for Multi-Cylinders.

OVERHEAD VALVES LIKELY

While Europeans Are Coming to American Ideas, We Will Adopt Many European Ideas.

BY H. A. TARANTOUR, Editor of Motor, Member of S. A. E.

Every automobile owner would like to know the progress being made in automobile engine construction and what the future holds for the different types both in this country and in Europe. The writer has made a complete analysis of the engine situation and finds that the overhead valve is fast becoming the American standard, and though the six-cylinder is the leader, with the four second, the eight third and the twelve last, there will be in a few years a sudden turn to multi-cylinder.

European critics seem to believe that abroad will the multi-cylinder engine gradually creep into first position. It may be difficult for many to see how the six-cylinder can be displaced, but the same view was held of the four not many years ago. The ideas that the eight and the twelve present mechanical complications and that the more cylinders the more trouble have been shattered.

There are two outstanding features of the multi-cylinder engine which will make its appeal all the stronger. One is its performance and the other its quietness. Smoothness of torque, great pulling ability, high speed, quick pick-up, reduction of vibration, are the results of multi-cylinder construction. Speed and power, while they may be had in the four or six, cannot be had with the same smoothness or operation as in the eight or twelve.

Long Hood Not Necessary. It was believed that the use of eight or twelve cylinders entailed the use of a long or wide hood because the engine took up more room than a four or six. As a matter of fact we now have eights, with cylinders in a row, that are shorter than any six producing the same power and speed.

In Europe the Lancia company is building a twelve-cylinder which is no longer than a six and looks exactly like one, owing to the casting of all cylinders in one block. The two rows of cylinders are only 22 degrees apart and only one carburetor is used. As time goes on the all-in-a-row idea will take hold and we shall see many such models in production.

In Europe the four-speed transmission, while at present the American average is a six with a three-speed transmission. Europeans do not object in the least to shifting gears, and they are not so insistent upon obtaining the high gear performance demanded by American buyers, hence the four-cylinder engine with the four-speed transmission is not object.

Gradually, though, the Europeans are coming to American ideas, for the Paris and London shows, recently held, indicate that the following ideas are being taken up practically by all European builders: vacuum fuel feed, block casting, multi-cylinder, electric starting and lighting.

Europeans Beat Us to It. During the last few years builders have had a wonderful opportunity to work out details of design for the post-war engine, using some of the knowledge gained in the design of airplane engines.

These builders have not worked out their designs as quickly as the designers, who already have more than a dozen overhead valve engines with overhead camshafts. We shall see these designs on our cars a year or two hence.

It has been thought by the average automobile owner that a valve-in-head engine is necessarily more powerful than an L-head of head. The valve location in power output, so it is possible to have an L-head of given size even more powerful than a headier than an overhead valve engine.

However, the overhead valve engine on the average is a more efficient type. The one objection to it, namely noise, has been almost entirely eliminated by improvements in design detail of the valve gear.

The automobile owner or buyer should not consider that just because a car has an overhead valve engine it makes that car faster or better than one with another type of engine. As a matter of fact the engine may have many times the power and speed of another, and the car in which it is mounted give poor performance.

Work Done Main Factor. The work the engine has to do must be considered. An engine of a big truck may produce 75 horse-power, yet the truck may not make more than 25 or 30 miles per hour. Some of the best cars made in this country and abroad have L-head engines, as for example the Holsys-Royce of England, the Packard, Cadillac and others.

It is a fact that engine vibration and engine torque or pulling ability have a bearing on the life of the rest of the car. Take a two-cylinder engine as an example. The heavy explosions coming infrequently jolt every part of the driving mechanism. Instead of "thunderous" blow infrequently the four gives twice the number of explosions, but of minor magnitude.

The six gives three times the number, each separate explosion being slight. The eight gives four times the number and the twelve six times as many as a two-cylinder engine. The more the number of cylinders the greater the number of smaller explosions in the same time, hence the less the individual shocks to the whole power transmitting mechanism.

CALIFORNIA ROAD PLANS \$10,000,000 TO BE SPENT ON HIGHWAYS THIS YEAR. Paving of the Coast Route from San Francisco to Los Angeles One Project to Be Finished.

SAN FRANCISCO, Jan. 3.—According to present plans \$10,000,000 will be expended by the state of California on new highways during the coming year. The commission is going ahead with its plans for the expending of \$300,000 a month in road work. The state highway activities since 1912 have been separated into several divisions, with headquarters at Willits, Dunsmuir, Sacramento, San Francisco, San Luis Obispo, Fresno and Los Angeles. The division organizations are alike in functions, and so

the work will proceed simultaneously in all parts of the state. The earliest work will be completion of the gaps in the trunk line and the work on the county seat laterals. The year 1920 will doubtless see completely paved the coast route from San Francisco to San Diego, and the valley route from San Francisco via Sacramento to Los Angeles. The commission is now engaged upon the study of the pavements through incorporated cities and towns. The gap between Cloverdale and Healdsburg will be completed, as well as a short stretch near Hopland in Mendocino county. The pavement between Rio Dell and Eureka is already arranged for, and one or more contracts between Eureka and Crescent City will be let. The new bond issue, among other things, provides for the construction of about 1620 miles of road not included in the previous bond issues. Since last July the engineering department of the commission has been extremely busy making surveys of these new routes, and much has been accomplished. Three survey parties are at work on the Skyline boulevard, south of San Francisco, one of the largest projects under the new bond issue. The largest southern California project, Oxnard to San Juan Capistrano, estimated to cost about \$4,000,000, has four survey parties employed. While, as already stated, the earliest work will be that of completing the

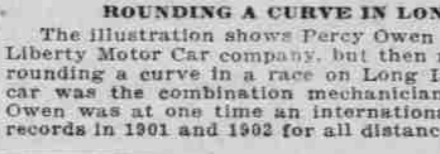
HOMES HUNTED BY AUTO

MANY TOURISTS LOCATE IN STATE AFTER VISIT HERE.

Value of Colored Literature Is Belittled as Many Home-Seekers Want to See First.

ALBANY, Or., Jan. 3.—(Special)—That people will hunt new locations hereafter by automobile rather than through correspondence and the perusal of advertising literature is indicated by instances observed here this fall. The increasing use of the auto is believed to be revolutionizing methods of immigration as well as other things and it is being predicted by real estate men that former methods of seeking new locations may obtain among only those who do not own cars. This conclusion has been reached because several families who have settled in this section left their homes in middle western states for an auto tour on which to choose a new location. They had a general idea of seeking new homes on the Pacific coast but determined the place by a personal inspection of the three coast

THIS IS HOW THEY RACED BACK IN 1903.



ROUNDING A CURVE IN LONG ISLAND SPEED CONTEST.

The illustration shows Percy Owen (right hand car), now president of the Liberty Car company, but then manager for Winton in New York city, rounding a curve in a race on Long Island. The man leaning out from the car was the combination mechanic and counterweight of the day. Mr. Owen was at one time an internationally known race driver, holding world records in 1901 and 1902 for all distances from 1 to 10 miles.

NEW YORK SHOW TO OPEN

BIG EVENT OF 1920 SEASON BEGINS TOMORROW.

Passenger Cars and Trucks Are at Different Show Places in New York City.

NEW YORK, Jan. 3.—With passenger cars on display at the Grand Central palace and motor trucks exhibited in the eighth coast artillery armory, Father Knickerbocker, on the opening of the 20th annual New York automobile show, can sympathize with the small boy at the three-ring circus.

Interest naturally centers in the Grand Central palace where the first actual post-war cars are making their debut, the dealers' show of last year coming too soon after the signing of the armistice to permit a display of any unusually advanced designs. There is no camouflage about the newness of the cars at the 1920 show, marked changes being noted in both the engines and bodies of many of the different makes of automobiles on exhibition. The motors, for example, embody aircraft principles, while the coachwork reflects foreign influence.

The six-cylinder car dominates the show more than ever this year, the majority of the companies exhibiting at the Grand Central palace sponsoring an engine of this type. The industry's partiality for the six cylinder engine, while the tendency in body design is to secure the low effect so pleasing in the finest of French and English cars. In both mechanical development and artistic coachwork, the cars now on view at the Grand Central palace need not turn aside for the foreign post-war models that were exhibited at the recent Paris salon.

The composite American automobile for 1920 is powered by a high-speed, six-cylinder engine, while the tendency in body design is to secure the low effect so pleasing in the finest of French and English cars. In both mechanical development and artistic coachwork, the cars now on view at the Grand Central palace need not turn aside for the foreign post-war models that were exhibited at the recent Paris salon.

THIS VELIE WAS A CHRISTMAS PRESENT.



Mrs. Frank Donceberg of Astoria and her new Velie, which was delivered as a Christmas morning surprise from her husband, well-known Astoria jeweler. The car was sold by the Nyquist Motor Car company of Astoria and was the first of the new 1920 Velies to be delivered in Clatsop county.

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roads contemplated by the first and second bond issues, it seems probable that some of the \$40,000,000 roads will be under contract next year.

These persons visited various sections, camping several days at times in different localities inspecting farms or city property for sale. When a location was selected they sent for their household goods and had them shipped.

There has been a large immigration to this section of the valley during the past three or four months. Practically all of the people who came here were seeking farms and had the money to pay for them or at least to make a substantial first payment. Most of those locating on farms in this county recently came from Montana or North Dakota, where there have been successive crop failures, but several came from other states.

MOTORCYCLES RACE IN SNOW

Only Two Finish in 24-Hour Endurance Contest.

Despite weather conditions that were little short of appalling, the Reading 24-hour endurance motorcycle race was held December 12. Other roads made almost impassable by rain, snow and heavy frost, the entrants struggled to make the 24-mile run, but only George Isenberger and J. C. Cole checked in at the finish, many hours late. When weather conditions are considered, the fact that they finished at all was remarkable.

Four teams were unable to keep up the struggle with the elements, Anderson and Maynard, Bachman and Dalton, Eisenbeise and Reinhart and Flick and Newkirk were forced to fall out between Reading and Bedford because of snow. Two teams withdrew at the start because of the impossible road conditions.

Isenberger's machine was equipped with Goodyear tires, which were largely instrumental in his wonderful performance because they afforded traction over the indescribably soft mountain roads.

Carburetor Vibration. In fitting a new carburetor be sure that there is no looseness to cause vibration, because if there is a broken flange will be the inevitable result. If vibration is present a small iron bracket should be installed from a nut on the engine frame to the instrument to steady it, also taking the strain off the intake pipe.

BOILLOT DRAMATIC RAGER

FRENCHMAN CROSSES FINISH LINE BACKWARDS.

Speed Contest in Italy Declared to Have Been Hardest in History: Had 1500 Turns.

PALERMO, Sicily, Jan. 3.—Colliding with the grandstands and backing over the finish line, Andre Boillot won the Targio Florio, the first European post-war race, in the Haby Peugeot in which he made such a formidable showing in the last international 500-mile sweepstakes contest at Indianapolis. It was the most gruelling and most terribly difficult race ever held in Europe, and Boillot won only by playing with death every yard of the way. His average was only 34.21 miles per hour, but when it is considered that the 288-mile course had

1500 distinct turns to each lap of 67 miles through mountainous country, and that snow and rain fell intermittently through most of the contest, his performance ranks as truly marvelous.

The outstanding feature of the race, the tenth to be held on this famous course, was a duel between Rene Thompson on the eight-cylinder Daimler that he drove in the last Indianapolis event, and Boillot in his little Peugeot. Thomas drove desperately as long as he was in the running, and held his rival on nearly even terms until the last lap, when he skidded on one of the many dangerous turns and broke his rear axle.

In his daring driving Boillot had innumerable narrow escapes. Six times he missed his turns and went right off the course. One of the most sensational of these incidents occurred in full view of the grandstands. Climbing the winding hill running away from the stands, Boillot swung to the right to tackle the left hand turn that would take him out of sight. His car skidded and struck the bank. It leaped three feet into the air, dropped on two wheels and

tumbled for a second on the edge of a precipice, then slipped back and settled on a heap of stones. Boillot tried to pull off under his own power, but being unable to do so, jumped out of his seat, dragged the car clear and was off again before any one of the spectators could come to his assistance.

Approaching the finish line, he noticed that spectators had invaded the course. He braked hard, spun around twice on the greasy road, and shot diagonally into the grandstands, slightly wounding two civilians and two soldiers. The car was pulled clear of the wreckage and Boillot and his mechanic, who had been thrown out, were lifted back into their seats. As the rear of the car was turned toward the finish line, Boillot slipped into reverse and cut the line backwards. He was unable to walk and was lifted out of the car.

A few seconds later a cry went up from the Italian partisans that the Frenchman would be disqualified for finishing on reverse. Immediately Boillot and his mechanic were lifted back into the car, the Peugeot was driven 30 yards down the course and run across the finish line for a second time. The race was won. Boillot collapsed in his seat.

At the recent salon in the first international exhibition held since 1913 in Paris, there was an exhibition the leading cars manufactured in France, England, Italy, Belgium, Spain and Switzerland, while the United States was represented by about a dozen different makes.

Opening of— New Oldsmobile Show Room

Monday, January 5th Will Be Open Until 10 P. M.

ALL MODELS ON DISPLAY

- 6-cylinder, Model 37, Sedan \$2450
- 6-cylinder, Model 37, Coupe \$2450
- 8-cylinder, Model 1-45-B, 7-passenger \$2350
- 8-cylinder, Model 1-45-B, Pacemaker \$2350
- 6-cylinder, Model 1-37, 5-passenger. . \$1650
- 6-cylinder, Model 1-37, Roadster... \$1650
- Oldsmobile Economy Truck \$1600

All Prices Portland

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Broadway at Couch St. OF OREGON Phone Broadway 2270

MACK PERFORMANCE COUNTS

CHAIN DRIVE ON MACK TRUCKS

A Statement

It has come to our attention that the sales-manager of a motor truck company has issued a letter in which he welcomes the AC MACK into the fold of worm driven trucks.

We appreciate the gentleman's good wishes, but desire to correct the erroneous impression his letter gives.

A. C. MACK (3 1/2-5-7 1/2-Ton) TRUCKS Will Not Be Built With Worm Drive

For several years the International Motor Company, manufacturer of Mack trucks, has built and tried out a great many types of drive on the AC models, but has not succeeded in finding any as satisfactory as the present Chain Drive.

These experimental trucks have given good service and we believe they have as good a worm drive rear axle under them as it is possible to have, but the factory is not satisfied.

Although committed not to use the worm drive on AC models, if later the factory perfects an inclosed drive superior to anything of the inclosed type now sold and decides to market them, we shall continue to recommend the CHAIN as the most satisfactory type of drive for heavy duty trucks.

International-Mack Corp.

Tenth and Davis Sts. Broadway 691

Announcing the Arrival of 3 Carloads of the Well Known

Cofferson SIX

Immediate deliveries on 1920 models, 5 and 7-passenger. See them on display at both our salesrooms.

"JUST A LITTLE TIP"

Ask Larry Sullivan of the Fashion Garage, Tenth at Yamhill street, the man who rents cars without drivers—he'll tell what he thinks of this honor built car.

We are now allotting territory to live dealers. Correspondence Invited.

Lewis E. Obye Motors Co.

Distributors

TWO BIG SALESROOMS—Broadway at Couch and 12 Grand Avenue North, Near Burnside Street

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