MANY DEVICES USED TO INCREASE POWER

Some Adulterants Declared to Be Worthless.

FUEL SAVING IS CHIEF AIM

Carburetor Adjustment Proves Better Than Compound, Auto Expert Points Out.

will give him all the power he ever needs will wish for more power is one of the unsolvable problems of automobile engineers," declares an authority on the subject. "The more power that is given the more is wanted, and that is why so many power-increasing de-vices and substances flourish on the market. There are thousands and thousands of motorists who buy these things to get more power, thousands more who don't care for the power but want fuel economy, and still others who don't care for either, but look for removal or prevention of carbon, or both.

The owner who is looking for more power ought to get a racing car, bewhich do not show enough power for even unusual conditions of ordinary driving. The carbon-preventing and fuel-saving features of fuel adulterants are those worth while.

are those worth while.

"But now as to the adulterants and their virtues. Let it be said in the very beginning that in nearly every case that has come to my attention these fuel adulterants are without any value whatever. Fifty per cent saving in gasoline, no carbon and more power is the usual slogan of the maker. No fuel saving, same old carbon, maybe less power is the frequent complaint of the user. Moth balls sometimes are used in this way, and these are composed of in this way, and these are composed of hydrocarbons. The addition to the fuel of kerosene would in most cases give you the same results whatever they might be. I do not doubt that in isolated cases some change would take place, but as a general thing the moth balls will not give a saving in fuel. They will increase carbon if anything, and add little to the power.

Many Compounds on Market. "There are on the market, however, some dozens of compounds, mostly liquid, which when added to the gaso-line are supposed to do all sorts of things. Where the claims are reasonable there is a good theory surround-ing the action, but since most of these compounds are simply some hydrocar-bon made incognito by means of some other ill-smelling substance you can use almost any theory in explanation of the action. I do not believe that the of the action. I do not believe that the money expended for these substances in the main brings an equal return unless there is a proved combination of results. That is, fuel must be saved and carbon prevented from depositing or more power had with either of the

"A great many manufacturers of these substances recommend that when the substance is used the carburetor should be adjusted to give a leaner mixture, or smaller noxies installed. Why not try the carburetor aljustment or the smaller noxies first? They claim Why not try the carburetor aljustment or the smaller nozzles first? They claim the presence of the substance allows of the use of a leaner mixture, but how do you know you cannot now run on that leaner mixture without any addition to the gasoline? Try it and see. In one instance only did I find that the substance really allowed of a still leaner mixture being used after the carburetor gave the leanest possible mixture of gasoline without misfring, but this substance was almost as good rethis substance gave almost as good re-sults without the change of adjustment The thing I am trying to bring out is that any such claims as 50 per cent saving in fuel by the use of an adulter-ant are simply grossly exaggerated or clear attempts to mislead.

"I can readily understand how an in-crease in power can be had by the use of some substance in the fuel. If the chemical structure of the fuel is al-tered by some action of the substance, the power can be increased. This can be easily explained on the theory that the fuel burns strata by strata and that each strata gives its own individual results.

Same Results With Oil.

"If the strata, or series of compounds composing the gasoline are changed chemically a certain way, they can be given a higher explogive force individ-ually, so that the maximum impact on the pistons also will be greater and the result will be in evidence in more power from the engine.

power from the engine.

"In regard to the carbon question. I think you will find that these fuel adulterants will not remove a deposit already hardened, but in some cases they might prevent depositing of carbon, but that practically the same results might be had by feeding a little oil with the gasoline. The trouble here would be, however, in getting an oil that would not burn up with the explosion. If it wet the piston, too, then the carbon would not have a chance to deposit or it would at any rate be of deposit, or it would at any rate be of the loose sort. I believe the carbon removing feature a sham in nearly every case, because the carbon once caked cannot even be removed easily by scraping. Often we must use a chisel, so hard and flinty and smooth has the

ants, their price. Where the maker does not give a money-back guarantee, and where the manufacturer has no recognized standing, I think the motorist is gambling, and such gamblers nearly al-ways lose. The usual price for these substances is high, not because the in-gredients warrant it, but because the maker wants to make more money than he is entitled to. The can or bottle is usually worth more than the contents. return the purchase price if the stuff does not live up to the maker's claims."

SHOWN FIRST TIME

NEW CAR MAKES HIT AT AUTO EXHIBITIONS.

Hudson Product. •

Week.

Mr. Tormey was formerly manager of the Keaton Tire & Rubber Company, of this city, and is now Northwest district manager of this company. His territory includes the states of Oregon, Washington and Idaho.

Washington and Idaho.

Heavy On the states of Oregon, washington and Idaho.

largest industry.

Although it is believed that the attendance will be greater than ever before and the number of exhibitors probably will break all records, only one car, the Essex, will be shown for the first time. This newcomer, which is expected to arouse considerable interest because of the remarkable claim; Don't start motor with wide-open made in its behalf, was only recently throttle or advanced spark. made in its behalf, was only recently throttle or advanced spark,

jected to every conceivable test during the past two years, and has set up some new records in efficiency, power and durability.

"The Essex, although a light car in construction," says C. L. Boss, of the C. L. Boss Automobile Company, distributors, "was built by the designers of the Hudson super-six, to meet the demand for a car having the comfort, derability and power of the highest priced automobiles on the market with the further advantages of greater of ficiency, minimum depreciation and low

ficiency, minimum depreciation and low first coe:.

"Aside f m its ease of operation and the luxury of its riding qualities, the most marvelous thing about the car is the motor, which, although only 29 inches in length, develops more than 50 horsenower. 50 horsepower.
"This is the quality that has been the source of wonder to those who have seen and ridden in the Essex—

the fact that a four-cylinder car can possess such acceleration and power. It is a mystery to all of us, but the qualities are there."

AUTO BUYERS INQUISITIVE

PROSPECTIVE OWNERS WANT TO KNOW ALL ABOUT CAR.

Chandler Dealer Pays Tribute to Intelligence of Big Motor of Motor Prospects.

to make the Chandler lighter, more conomical and easier to operate.

"To be sure, the motorist appreciates beautiful body lines, but this decision does not begin and end there. 'How many miles to the gallon" the buyer asks. This gives an excellint opportunity to explain why Chandler cars use less gasoine. How the cylinders are lessed of all dead gas and leaves an uses will develop which are now enthe future of aviation. No doubt many cleared of all dead gas and leaves an open track for the incoming charge, and why this gives more power and the future of aviation. No doubt many uses will develop which are now entirely unforcesen. The most immediate and practical uses will be for national defense, for sport, for transportional defense are defended in the future of aviation. No doubt many uses will develop which are now entirely unforced in the future of aviation. No doubt many uses will develop which are now entirely unforced in the future of aviation. No doubt many uses will develop which are now entirely unforced in the future of aviation. No doubt many uses will develop which are now entirely unforced in the future of aviation.

"We are talking to a more intelligent audience these days, and these people can appreciate more fully what our continued efforts mean in economy and convenience.

"I predict that the tendency will be toward a more careful study of cars, and this is decidedly good news, for the more the automobile owner studies the working parts of his car, the more he appreciates the skillful design of the Chandler and the greater satisfaction he feels throughout his entire period of possession of such a car."

"RACTOR SCHOOL SUCCESS"

"A commercial demand will be quickly created when safe landing places for the present high-speed machines are provided at frequent intervals or when a type of machine is developed which can safely land on any ordinary ground.

"I believe that the fallure of the airplane for sport and commercial uses up the lack of facilities for safe landing at any and all times.

"Many of the present military machines can be utilized in mail service between cities where the interlying territory provides frequent landing places.

"I believe the peace-time uses of the airplane will be in proportion to the safety provided."

MANY OWNERS IN CLASSES AT Most Elaborate Road Plan in His HILLSBORO.

Power Machinery Distributors Send Expert to Lecture on Operation of Vehicles.

tractors, laying emphasis on adjustment of bearings, lubrication, timing valve and magneto. They also called attention to the results of overloading, the cause of trouble in starting and why tractors sometimes fail to carry

The speakers included W. J. Gilmore, department of farm mechanics, Oregon Agricultural College; W. G. Munro, of the Ciandard Oil Company, who spoke on "Lubrication and Carburetion," and Mr. Peters, of Keene & Peters, Portland whose subject was "Mannetos and Carburetos and Car and, whose subject was "Magnetos

and Their Repair."

Mr. Golf, Forest Grove dealer, spoke of the advantages of such a school from the standpoint of the dealers. Mr. Glimore, of Corvallis, expressed appreciation of the excellent feeling existing between the tractor companies and users of farm tractors, contrasting the present conditions with those of a few years ago when he said it was not uncommon for salesmen to sell tractors and then pay little or no attention to helping the buyers get proper results. proper results.

At the close of the three-day school County Agent Jamison thanked the lo-cal tractor agents and the Portland listributors for their assistance in making the school a success. The students expressed satisfaction with the work and arrangements were made or holding a five-days' course at Hills-

TORMEY IS DISTRICT MANAGER

Keaton Tire and Rubber Man Re turns From Army Service.

J. S. Thrmey, who has been absent from the city for some time assisting Uncle Sam in the prosecution of the war, returned to Portland during the

Many motor car users have experi-enced difficulty in getting heavy oil to flow from the storage tank in which it

GENERAL PLANE USE

for Recognition.

SAFE LANDING IMPORTANT

Dean of Flyers Says Machines Will Be Used for Defense, Sport and Transportation.

Immediate and practical use of the airplane in peace time for national deanse, for sport, for the transportation of mail and light merchandise and for imited passenger service is urged by orville Wright in a statement on the future of aeronautics in America, made public through the Manufacturers' Air-

raft Association.

Aviation in the United States, it is declared, has reached a most critical stage, and for this reason the inventors "The automobile buyer of today is asking new questions about cars," says A. H. Khaus, of the Twin States Motor Car Company.

"We have seen this change taking place from the early days, but more especially so since war economies have caused careful study of automobile values. In the early days people bought paint and body lines. / They never looked under the hood and never wanted to. But now people are studying automobile values, and the resul is that we may expect a more intelligent without the following mechanical flight.

Gienn H. Curtiss, Glenn Martin, John A. Gallaudet, G. C. Loening and other inventors join Mr. Wright in making the co-operation of the American public in developing mechanical flight.

Gienn H. Curtiss, Glenn Martin, John A. Gallaudet, G. C. Loening and other inventors join Mr. Wright in making the statement of each will subsequently be made public.

Pioneer Certain of Future.

Orville Wright, who, with his brother, without men and for this reason the inventors and designers, whose genius underlies and designers, whose genius underlies and designers.

automobile values, and the resul. is that we may expect a more intelligent selection of motor cars.

"People today want to know what the car will do more than what it looks like. The motorist has had a peek at the working parts through making minor repairs himself during war times.

Ploneer Certain of Future.

Orville Wright, who, with his brother, Wilbur, proved to the world that men could fly and that Americans, first of all men, had actually flown, believes that the airplane has a commercial future, but before this future develops, he infers, the people must co-operate with the inventors and manufacturers times. times.

"The Chandler Motor Company appreciates this new attitude, for it allows us to explain in detail the many superior points which our engineering department has so carefully worked out to make the Chandler lighter, more economical and easier to operate.

With the inventors and manufacturers in providing safe landing places. Just as it is with a ship at zen, so with a machine in flight, navigation is frequently less difficult than making port to make the Chandler lighter, more economical and easier to operate.

means a decided fuel saving, are easily explained.

"We may explain how the frame of the Chandler has been lightened and simplified, and why this is another commercial Demand Predicted.

"Commercial Demand Predicted. tional defense, for sport, for transpor

Commercial Demand Predicted.
"A commercial demand will be quick

IOWA AFTER GOOD HIGHWAYS

tory of State Mapped Out.

DES MOINES, Ia., Jan. 25 .- That the present session of the Iowa Legislature will see the most determined fight for good roads in Iowa the state has ever known is now an assured fact. The most elaborate good roads plan ever proposed in Iowa has been mapped out by Representative Nebiker, of Burling-

At the end of 1917 there were \$140

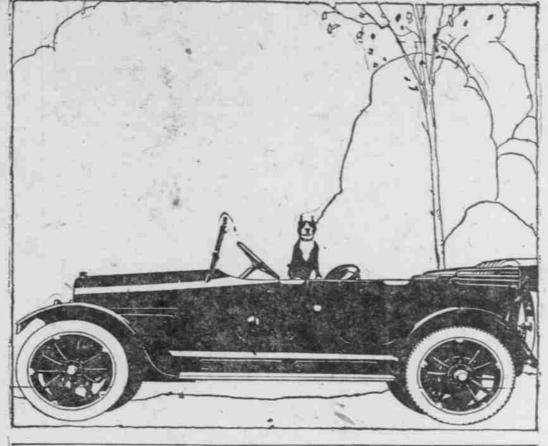
notor vehicles in Switzerland, of which number 4934 were touring cars and 206 motor lorries. Of the total, 2565 motor cars were of Swiss origin and
2575 were imported vehicles.
Acording to these statistics, for which
the Automobile Club of Switzerland is
responsible, there were 15 motor car
firms in the Helvetic confederation. The
number of foreign makes represented
in that country is 42. The foreign in that country is 42. The foreign firm having the largest number of cars in service in Switzerland is Fiat with 283 touring cars and 15 motor lorries. Although it is an Italian firm which heads the list with a big margin, France is first in the list of nations, with Germany second, America third, Italy fourth and Belgium fifth. British-built cars are not listed separately.



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Under all weather and road conditions, the Overland Model 90 has won its present high reputation as a car that is easy to start, easy to run, and economical to maintain. This reputation is founded on ten years of constant effort to merit the appreciation of the public. The Overland car today is more deserving than ever of that prestige which has grown from the enthusiasm of 600,000 owners.

Willys Overland Pacific Co.

Broadway at Davis St.

Model Ninety. Five Passenger Touring Car, \$985 f. o. b. Toledo

Washington County's tractor school, conducted at Hillsboro January 16, 17 and 18, was the first school of the kind in the state and probably in the United States, according to the Washington County Farm Bureau and N. Jamison, county agricultural agent, who assisted the department of farm mechanics of Oregon Agricultural College in conducting the work.

Fifty-eight students, 44 of whom were tractor owners, were in attend-Fifty-eight students, 44 of whom were tractor owners, were in attendance. The tractors used included the Bussell, Moline, Cleveland, Allwork, Waterloo, Nelson, Parrett, Fordson, Avery and International Harvester.

The tractors were loaned by Portland and Hillsboro distributors, each of whom sent an expert to assist in the instruction. These men went into the details of adjusting and repairing their tractors, laying emphasis on adjustment of hearings.

Seat of the State College.

The highway department would be headed by a commission of three men and with powers far outstretching those of the present commission. In addition there would be a highway engineer and assistant highway engineer, with salaries of the facilities of the instruction. These men went into the details of adjusting and repairing their tractors, laying emphasis on adjust-ment of hearings.

economical manufacture.

The new plant at South Bend will be devoted to the production of the new light-four cars, while the Detroit light-four cars, while the Detroit plants will continue the production of six-cylinder cars and automobile parts. The layout and design of the buildings and equipment of the new plant are the concrete result of the experience and study of the engineers and manufacturing experts of the corporation assisted by the engineering staff of James Stewart & Company Inc., of New York City, whose long experience and engineering reputation are world-wide. The buildings are of modern type, concrete and steel construction, and are

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30x3 Rib - Tread. \$12.50 5000 30x3 \(\text{Non} - \text{Skid.} \) 18.50 5000 30x3 \(\text{Non} - \text{Skid.} \) 21.75 6000 32x3 \(\text{Non} - \text{Skid.} \) 24.75 6000 31x4 Non - Skid... 29.00 6000 32x4 Non - Skid... 31.00 6000 33x4 Noy - Skid... 27.50 5000 34x4 Non - Skid... 35.00 6000

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82 N. Brondway, Portland, Or,
Near New Postoffice. arrangement. The total area of the buildings will be 2.384,500 square feet, consisting of a machine shop, assembling building, foundry, forge shop, heat treating building, stamping plant, tool room, car test building, storage building and shipping platform.

Building and shipping platform.

grouped to promote the simple, quick house already completed and equipped portant to keep oil away from the rub-STUDEBAKER BUILDS PLANT

| Stronger of the simple, quick and economical movement of work in progress necessary to quantity manusprogress n costs and eliminating handling, such as a standard-gauge railroad with Stude-baker equipment, industrial railways, traveling cranes, magnets, power and gravity conveyors and labor-saving machinery are introduced in the best known of the times, and maintain the highest possible degree of manufacturing effects of the succession of the s possible degree of manufacturing ef-

Oil Hard on Insulation. Rubber is very quickly disintegrated

Miller Rubber Company Man Leaves for Western Trip.

F. C. Millhoff, general sales manager of the Miller Rubber Company, left the factory at Akron, O., January 22 for a swing around the circuit. He is scheduled to visit Portland and building and shipping platform.

Another building belonging to the same group is the 8000-H. P. power- the oil. For this reason it is very im-

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