

on having the most elaborate car which clutch has been greatly improved, and lines to equip themselves in a most commoney and brains can put together, but the the newer disc types have been developed, plete manner for handling certain classes great demand will be for the moderate- it would seem, almost to perfection of work. Thus, it is possible to obtain be two new models at the show exhibited priced car which can be used for all pur- Through the use of special materials and pressed steel autogenously welded parts by R. R. Kimball, a forty-florse power, Even those owning the more of special tooth forms, together with the at low prices, which, if properly designed, seven-passenger, six-cylinder, and a twen-us cars will buy cheaper cars for annular type of ball-pearing, gear boxes are superior to anything that could have poses.

disengaged by means of a compound coup-In the Stevens-Duryea, which is one ling between the clutch pedals and the

yokes. of the popular cars of Omaha, there will The Knox will show both water and aircooled motors, with two models of the

former and one of the latter. The wheel ase of this car has been increased and a

automobiles finds an easy answer in Omaha mounted on it. The word is both singular

at the present time. They are all in use. and plural. The automobile industry is so young that "Tonneau" is another word that is a puzfew cars have become so old and decrepid gler, but which is so commonly used that that they are of no further use. If an the uneducated prefer to make believe they owner wishes a more luxurious car he understand rather than to show their igsimply trades in his old car for what he can norance. The word is applied to the rear get and it is sold to someone who wants part of the body in which the passengers to break into the list of automobile users sit and the plural of it is tonneaux. at a small cost and is willing to buy a "Carbureter" sounds mysterious save to second-hand car. These cars are also used those familiar with automobiles. In reality in the rent business, which, while profit- it is the gas-making apparatus into which able, is hardly large enough at present to the gasoline runs after which it is conpermit the auto livery men to buy the verted into gas by being mixed with air behigher priced cars for knocking over all fore being shot into the cylinders. "Transmission" and gear set are some sorts of roads at all times of the night. what synonymous and vores the gear shift-Fow cars are on the scrap piles in Omaha, but there is little doubt but that in a few ing apparatus, while "control" applies to the method of handling the gasoline supply years there will be quite an automobile and the spark, either retarding or advancing scrap pile. the latter or opening or closing the throttle Work for the Feet. on the supply of gas. The show will show a growing demand "Wheelbase" is not so strange because of for an accelerator by which the throttle is the fact the term was used in the cycling manipulated by the feet. One machine days, and of course nearly everybody has shows a clever idea by which the throttle ridden a bicycle. That means the length of is opened or closed by a lateral motion of the car from the front hub to the rear one, ty-first street. When it is stated that the the foot instead of pressing down on the while "tread" applies to the width of the pedal. The argument in favor of this is machine. "Clearance" covers the distance that it is less lin-some than keeping the between the ground and the lowest point on foot in a semi-raised position. the chassis, usually the axles, and these Another debatable point is raised by the figures give one a fair idea of what sort of makers of the cone and multiple disk roads can be covered in that particular clutches and the honors seem to be about make of automobile to which it refers. even in the debate. If anything the disk "Radiator" does not mean the heating has gained in popularity during the year. apparatus one might suppose. Instead it is but the adherents of the other styles have just the contrary, being the device in the so many arguments in their favor that it front of the chassis through which the seems to be a matter of personal prefer- water circulates that is used for the purpose of keeping the engine cool. There are Good brakes are always necessary on a various types of these, cellular, tubular, motor car and the designers are always etc., but all used for the same purpose. looking for some way to improve the "Clutch" is a word often heard at the brakes. Many manufacturers have in- show, the meaning of which is that it is the creased the braking surface and there seems medium by which the power of the engine to be an inclination to get away from the is connected with the rear wheels of the metal to metal friction surfaces and to use car, sometimes by means of chains and

their machines. The rich will still insist In the transmitting system the old cone created has enabled specialists in certain

knock-about purposes.

Cars that Are Popular.

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Considering the show as a whole there powered and small. While closed cars, such a most 'uncertain mechanism five years. as the luxurious and expensive limousine, ago to one of the most positive and re-the landablet and coupe, will be shown, the liable units in the car. exhibits will be few, as this is not the type dealers will naturally show the type of car than five years ago, and was seen only which is more in demand in the middle which is their battle ground. The It is now universial, its advantages from well placed to help the automobile engi-tons which have the cylinders cast with type of car which is naturally the most the standpoint of strength, lightness and neer in his work. in demand in this section of the country cheapness being now thoroughly underis the moderate-priced touring car of four, stood.

five and seven passenger capacity, with the For front axles the one-piece drop

Speed Limit Not Reached

One mile in 28% seconds; two miles in performances, chief of which was the mark 55% seconds! These are the high water made by this same Nazzaro in the Florio m: iks in automobile speeding. They rep- cup race in Italy, in which he averaged resent the greatest flights attained by 743 miles per hour for 478 miles, which inthe motor car and probably are faster cluded stops for tire troubles and the takthan made by any other methods of trans- ing on of oil and gasoline. Nazzaro, howportation or motive power. There have ever, was favored by a fine course, which been rumors of even greater speed reached had in it only four turns to a circuit, while by the locomotive and the electric trolley. the roadbed was hard and smooth and not cannot get rid of enough water to insure also become choked with a plug of los ported officially as in the case of the As showing the difference in courses, the When putting away the car for the night Targa Florio in Italy, won by Trucco in in any place where water is likely to freeze

automobile. ter than 125 miles an hour, and two miles per hour. This course is 279 miles in length, taps, while possibly he will remain until in 1985 means a shade over 123 miles an made up of three circuits, in each of which the water has reached the "drip" stage. hour. But even those territying marks there are 1,422 sharp turns, which means An insidious trouble, however, seems to do not repr. sent the limit of the speed of fifteen turns each mile, or one each 117 commence the moment he turns his back, the cutomobile, it is declared; they sim- yards. In the French Grand Prix, which for the water pipes, relieved of the warm ply represent the limit of tire safety; was at 478 miles last year, Leutenschlager, water, rapidly cool down; there still reabove that point it is doubtful if rubber in a German Mercedes, averaged 69.5 miles mains, however, a film of water on the freely from the pump tap before turning and canvas would stand the strain. per hour."

both made in 1906, one by steam and the is much slower. In the first place, we cases being the pump. While this is pro- free when turning the handle, because as other by gasoline power. Fred Marriott have no such course as the Florio cupcir- ceeding the pump has reached freezing In a Stanley steamer of American con- cuit, and again we lack the cars. True, point, when, instead of draining away to struction is the man who did the record most of the European cracks were at the floor, the water congeals in the pump, breaking mile, while Victor Demogeot of Savannah last Thanksgiving, but there and the latter is eventually more or less tablished the two-mils mark when he won turns. Still, Wagner in the Fiat man- being in a more protected, and therefore wrong. The spring drive is in such cases the speed crown, which could only be aged to establish a new American record awarded to the man to crowd two miles when he did 65.11 miles per hour for 402

into the minute. miles, taking away from Robertson the Both feats were performed at Ormend, honors he won in the Vanderbilt, when he 1996, over a course laid succeeded in averaging 64.3 miles per hour Fin., in January, out on the sand beach. Probably no other in the American Locomobile, the first course like it could be found in the world time a Yankee car ever won aroad race and no other place could offer such a in which a foreign car was a competitor. track.

Greater speed for a distance has been 'One may imagine the dangers incident to made in America, but again it was Orsuch performances when it is remembered mond that produced it, the meet there last that Marriott, the following year, nearly winter resulting in some new records being lost his life trying to beat his own record established over the sands. But these for a mile. tricks were turned by foreign built cars.

But the Ormond times are exceptionally Maurice Bernin of New York, at the wheel fast and far above the ability of the motor time a Yankee gar ever won a road race car on other courses. On an ordinary horse averaged \$2.26 miles per hour in 100-mile track, such as is used for meets in this race for the Minneapolis cup. Poor Cecountry, the speed is much slower, the drino, who was killed training for a track record for a circular mile being 51, made meet at Baltimore, averaged 77.03 miles at Minneapolis last summer by Ralph de per hour for 300 miles at Ormond in a Palma in an Italian Fiat, a pace which is Fiat.

only a shade better than seventy miles an hour. England has bettered this through American stock car in a road race was having a cement oval, which is two and made at Savannah last spring in the sixthree-quarter miles in circumference and cylinder event, in which George Salaman banked for unlimited speed. Over there it is said that Nazzaro, the Italian, in a Fiat, averaged 131 miles an hour for one lap, a William K. Vanderbilt, jr., once was a world.

disay flight of speed that startied the record holder, only losing his laurels last winter at Ormond when the amateur mile

But it is in road racing that one gets the mark was beaten by a 17-year-old schoolbest idea of the spred possibilities of the boy, Bruce Brown, who borrowed Ced-automobile, and during the last season rion's Flat and turned the mile in :5%. there have been several record breaking beating Vanderbilt's :39, made in 1906.

have been reduced in size and slienced, been made commercially at twenty times. For the first time the cylinders are cast

nated all other forms of transmission, and the steel makers of this country were not Bosch high tension magneto multiple coil; unlike five years ago, there is no rival equipped to turn out the special grades of a force feed, shaft-driven mechanical offer attaching the intake, the exhaust and water will be a noticeable predominance of open which seriously threatens its place. The steel required for high-class automobile furnishes the lubrication; the clutch is manifolds, the cylinder heads are easily retouring cars, baby tonneaus, cars with rear live rear axle with entirely enclosed driv- work, even at three times the price debucket seats and runabouts, both high ing mechanism has been developed from manded today. Result of Much Study.

In this way it may be said that every portion of the automobile has been con-As regards the running gear, the pressed sidered from different points of view by of car so much in demand in the west. The steel frame was originated but little more men who had made this type of part a tween the clutch and transmission so that study for years before the advent of the

To the large automobile manufacturer plates bolted on, the idea being to elimibelongs the credit of having the foresight nate a chance for leakage, while the gearand daring to invest large sums of money

in a new industry replete with pitfalls and thus providing the engineer with the means of working out his problems. That will have separately cast cylinders with the American is able to compete and even copper water jackets and valves on one

immunity from trouble in frosty weather.

three-plate disc clutch with cork inserts is The sliding gear has practically elimi- the price a few years ago. Five years ago in pairs; there is double ignition with a used. The transmission has double ball bearings and because of the simple way of multiple disk; the transmission selective moved.

In the two models of the Jackson which and the bodies are of rolled sheet alumiwill be shown the leader is model H with num built on a wood frame. Water-cooled brakes will be a novelty a thirty horse-power four-cylinder motor and with the cylinders cast in pairs. This shown by the Haynes company on the

model has a magneto. Haynes car, which also has a device be-A selective gear set is bolted to the rear axle housing of the Overland and last year's the gears may be shifted easily. model, continued this year, has a foot con-

trolled planetary transmission. Steam cars will also be shown at the water lacket integral and with large end

show in Omaha and W. R. Drummond will have a fine array of the new White steamers, for, which he has recently completed set control lever is outside the frame in stead of being in the floor-board. a new home on Farnam street near Twen-The Cadillacs, shown by R. R. Kimball, United States government, a most discrimi-

nating buyer, owns more of these cars than

Preventives and Remedies

It may seem a comparatively easy matter | warmer, position, the water will continue | of the greatest value, for by watching the to draw off all the water from the cooling to drain down them to the pump, perhaps behavior of the spring, which will tend to system of a car, but in practice this ideal for a considerable time after ice has wind up if the pump be fast, one can preis seldom realized, as in some cases one formed there, so that the pipes themselves vent any inadvertent damage.

The water pumps of several cars are where they connect to the pump. In the morning fresh water is put in and fitted with fibre washers, as packing joints the starting handle is vigorously turned. to their ground covers, and asbestos string One mile in :15% means a speed of bet- an Italian Isotta, produced only \$5.5 miles the wise man naturally opens all the drain Crack goes the pump! The same thing can in the stuffing boxes. For all packing easily happen even when hot water is put joints designed to prevent water leaks, in, because the plugs of ice in the plugs nothing has been found so good as asbestake an appreciable time to melt, during tos string plentifully smeared with black which time the blades or gear wheels in lead. the pump still remain fast. It is as well

therefore, to wait for the water to flow In all cases of excessive gasoline consumption is it is not enough to see that walls of the pipes, which slowly drains the starting handle. Unfortunately there the fuel does not drip from the base of the Both these marks are of long standing. Here in this country road racing speed away to the lowest point, this in many is no way of discerning whether a pump is spray chamber when the car is at a standstill with the engine stopped. Much fuel the engine turns stiffly in any case when is commonly wasted from the float chamber, cold; and one has so great a leverage owing to the needle leaping off its seat through the starting handle that the pump under the influence of road or engine spindle may conceivably be badly damaged vibration, and so failing to cut off the France, in an eight-cylinder Darracq, es- they were handicapped by the numerous choked by solid ice. The water pipes without one being aware of anything fuel, which promptly overflows. Two meth-

ods of dealing with this nuisance satisfactorily have been found by an English motorist. On one car the flooding only occurred with the car in motion, and was solely caused by road vibration; in another flooding occured whenever the engine was running fast, irrespective of whether the car was on the move or not.

The first and more makshift of the two methods was to remove the cap which ordinarily protects the end of the needle, so as to press it firmly into its "V" bed; the cap was then unscrewed back the mer est trifle, so as to allow only a sixteenth of an inch upward motion to the needle. This does not entirely obviate jumping, but returns the needle to its scat pretty promptly whenever it hops. Wire was then bound round the bottom threads of the boas to prevent the cap screwing itself down and binding the needle down altogether. Another plan is to drill a hole in the top of the cap and use a set screw and lock-nut to damp the usedle; tnd yet a third is to fit a light spring soldered to a disc or thimble inside the cap, which resists the jumping of the needle, allowing the gasolene to force the needle up by means of the float.

The prevention of any collection, of carbon or metal dust in the high tension compartment is a matter to guard against in the operation of combination contact of hard riding. makers and synchronized high tension distributers. If this accumulates uncertain ignition is likely to result.

such material as camel's hair belting, again by means of shaft drive. leather raybestos, thermold, etc. Double "Bonnet" and "hood" mean the same brakes on the rear wheel hubs instead of thing, being applied to the metal covering brakes on the driving shafts are also that is placed over the engine when it is located in front of the dashboard. popular.

How Tires Are Made

The making of tires is one of the most manner. But before curing, the iron core nteresting phases of the automobile in- is replaced by an air bag-an extra strong dustry. The advance made in this particu- inner tube. And instead of being clamped lar branch of what has come to be one of in an iron mould it is wrapped about with the greatest factors in American industrial many layers of strong tape and is then life in truth are amazing. Automobile cured (vulvanized) in live steam. The comtires are made in two ways, or rather, two | pressed air bag smooths out all the irregudistinct ways and a combination of the larities in the layers as your hand smooths two. These two ways are "moulded" and out wrinkles in a garment-there can be "wrapped thread," and all tires may be no hidden ridges or hollows to induca divided between these clarses with one blowouts and cut down the milage. But exception, which combines what is said it does not give the terrific squeeze that the moulded tire gets, thus lacks cohesiveness to be the best points of both.

and unity-loses durability and strength. The "moulded" tire is built up layer by Besides these two methods of tire maklayer on an fron core. Over it is clamped ing, there is also the combination of the an iron mould. It then goes to the vulganitwo, employed by the Goodyear Tire and zers. Here heat expands the rubber, creat-Rubber people. The tire is first put on the ing enormous pressure inside the mould, tron core, clamped in the tron mould, the which forces a perfect union between the same as the "moulded" tire; and enclosed layers of rubber and fabric, which go to in hyrdaulic press vulcanizers, surrounded make up the tire. This precaure is so by live steam until the rubber has expanded tremendous that a two-inch cube of rubber. to the 'utmbst-until the squeezing has enclosed in a cast-iron mould with walls reached its limit. two inches thick will crack the iron when

Then before the rubber is fully set-while subjected to the heat of the vulcanizer. it is still plustic-it is removed from the The weakness of the process lies in the vulcanizer and carefully inspected, the fact that the building up of the fabric and tread applied, the iron core is replaced by rubber pieces is an operation requiring skill the air bag, the iron mould by the winding and dexterity. If the strips of fabric overof heavy tape, it is inflated on a rim, put lap ever so little, there's a ridge. If they back into the vulcanizer and left until fall to meet by the fraction of an inch. the curing process is complete, The iron there's a hollow. These fidges, hollows, core and the squeeze weld the tire into irregularities, are said in the curing to an inseparable whole. The air bag then become hidden weaknesses and defects. smooths out any wrinkles, furrows or irbecause of which one "moulded" tire will regularities which may have been hidden last only 1,600 to 2,000 miles, while its mate from the inspector's eye.

stands up perfectly for 12,000 to 15,000 miles The result is said to be that the tire is as firmly knit together in all its parts as

"The "wrapped tread" tire is built up layer the best "moulded" tire and as free from by layer on an iron core in the same defects as the best "wrapped tread" tire.

You can prate of your summer romances, Of the glens, of the groves and the sea; Of the silly small talk that enhances The pleasures of five o'clock tea. You can boast of your horses and carriage, If you've married an earl or a duke, Although very likely your marriage Will prove but a monetary fluke. Forsake these society features. Come with us o'er valley and hill; Tear up all your silly love letters, And motor with us with a will There's nothing so healthful and jolly, You will have both a ride and a rest; It will drive away melancholy, It will give your digestion a test. No pleasure in life so real; 'Tis the proper up-te-date passion, So purchase an automobile! I want the man and the second

The Best-Purchase La Touche Hancock.

Throw care to the winds! "Tis the fashion,