



### Old Dutch Cleanser

is great for cleaning plain or painted wooden floors, oil-cloth or linoleum. It is more economical than anything else and does better work. Use Old Dutch for cleaning everything throughout the house.

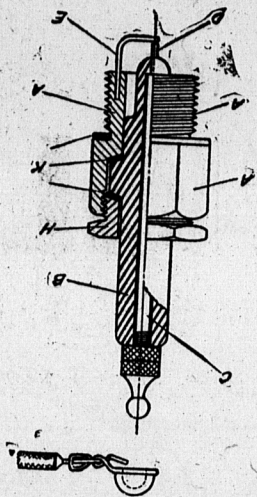


### HINTS FOR The Motorist

BY ALBERT L. CLOUGH

#### IGNITION. THE SPARK PLUG

The spark-plug is the device through which the high-tension ignition current is led through the cylinder wall into the compression space, where the spark is permitted to discharge in the midst of the fuel mixture and fire it. The accompanying diagram illustrates such a plug in principle the right hand side of it being imagined as cut through to the center line, thus showing the construction in cross-section: A is the steel shell, with its lower cylindrical portion threaded to screw into the cylinder wall. Its central portion is in the form of an external shoulder, to give a bearing upon the cylinder wall when the plug is screwed in and the upper cylindrical part of the shell is threaded internally. The external shoulder portion is of



hexagon form, so that a wrench can be applied to it, and there is also an internal shoulder formed in the shell. B is the cylindrical

### To Relieve Catarrh, Catarrhal Deafness And Head Noises

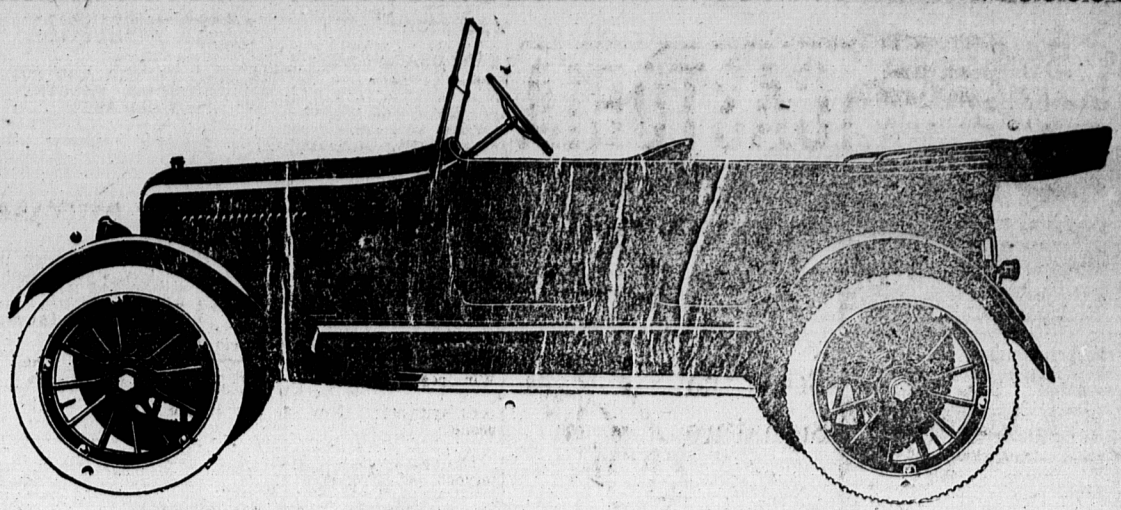
insulating bushing or core, usually made of a special grade of glazed porcelain, which is the most vital part of the plug its office being to prevent the escape of current into the metal of the engine and to confine the current until it reaches the points, where the spark is required. It is formed with an external cylindrical projection that fits on the internally shouldered hole of the shell, and it has an axial channel through its entire length, into which is cemented the stem C, which conducts the current into the cylinder—the office of the core B being to insulate this stem from other metal parts. C terminates at its lower end, where it emerges from the insulating core in the spark point D and at its upper end in a binding-screw or snap-on connection, to which the high-tension cable from the distributor is fastened. A spark point E is fastened into the shell A and so bent that its end is at about 1-32 inch from that of point D. H is a ring-nut, with hexagon head threaded externally and of such size as to fit between core B and shell A and to screw into the latter. KK represent ring shaped washers or compressible gaskets, usually of thin copper spun over asbestos, one of which is placed between ring-nut H and the upper shouldered surface of core B, another between the internal shoulder in shell A and the lower shouldered surface of B and the third between the external shoulder of A and the machined rim of the threaded hole in the cylinder wall. These washers are for the purpose of preventing the escape of gas from the cylinder past or through the plug and, when nut H is firmly screwed in place they are compressed and act to pack the joints. Usually a thin annular space is left between the lower end of the core and the inside of the shell in order to make more difficult the escape of current over any soot, which may collect upon the surface of the porcelain. Instead of using the ring shaped packing nut to tighten the gaskets K, some plugs are made with a body of malleable metal spun into the space otherwise occupied by H and acting to compress the washers. Such plugs cannot be taken apart. If the core cracks or loses its insulating power the plug will fall to spark for current which should pass between points D & E escapes uselessly from stem C to the shell and therefore the

finest grade of porcelain, both as regards insulating quality and mechanical strength must be used. When in action the lower end of the plug becomes extremely hot, so that its core material must be proof against the stresses due to repeated expansion and contraction and must lose its insulating properties when highly heated, as some grades of porcelain do. The sparking points DE are directly exposed to the explosion and must be of metal which has a very high melting point and the utmost resistance to oxidation—tungsten or alloys containing platinum being best adapted to this purpose. The points should not be so massive as to become red hot and to retain this condition from the occurrence of an explosion until a fresh fuel charge is taken into the cylinder, for this would cause the new charge to fire before the spark occurred or, in other words, premature ignition would occur and on the other hand the points should not be delicate enough so that the passage of the current and heat of the explosion would rapidly wear them away. Great care must be taken to make the plug gas tight, so that there shall be no escape of charge or indrawing of air through it, and the core must be protected from direct contact with the metal of the shell by the packing gaskets, or else cracking will result. The location of the plug in the cylinder is a matter of considerable importance. It should be inserted into the cylinder space above the highest point reached by the piston and it may be located in the cylinder-head proper, in one of the caps that covers a valve (usually the inlet-valve) or in either of the cylinders. It should be so placed as not to be unnecessarily exposed to oil or to highly heated burned gases and so as to be in touch with the new charge as it enters the cylinder. The plug should not project far within the inner surface of the cylinder wall, as this renders possible the overheating of the shell, resulting in premature ignition.

BATTERY CHARGING FROM EXTERNAL SOURCES. Private Recharging Facilities are Advantageous. A battery may become discharged, in service, because the demands upon it have been unreasonably great, because it has been discharged through a short-circuit or accidental load or because its generator has not been charging it sufficiently. When this happens, it will generally be found preferable to recharge from some outside source of current rather than from the generator on the car and in the home garage. The advantage of the latter method is the reduction in loss of use of the car as the operation can be conducted during the idle periods, as at night, if there is anything wrong with the battery itself, home recharging had better not be attempted. The apparatus needed is a source of current, means for connecting it to the battery, a low reading ammeter and a battery hydrometer. The current must be continuous or direct, flowing in one direction constantly and must not be of the alternating variety. Comparatively few motorists have access to direct current lighting or power circuits, but such as do have only to cut down the voltage of the supply to the required value, by resistance in the form of incandescent lamps, connected in multiple. The average motorist has alternating current for lighting in his garage and must obtain some means for changing the comparatively high alternating voltage into a low, direct voltage. A rectifier or small alternating current motor driving a low voltage, direct current generator is the apparatus required. Rectifiers are upon the market in considerable variety and such instruments usually embody an ammeter and

ENGINE SMOKES BADLY WHILE IDLING

entirely connected to the flexible cable that is to be used as one of the charging conductors. In recharging, the terminal clamp of the battery that is not grounded should be removed and this extra clamp secured in its place, the other wire from the charging source being a securely grounded upon the car frame or power plant. The current must be passed through the battery in the right direction and with most forms of rectifiers this is automatically taken care of, but in charging from a direct current supply circuit, the direction of current flow must be tested and the connections to the battery made accordingly. J. H. W. writes: My engine has a smoky exhaust which is especially bad when it is idling, but this is not on account of the quality of oil used. Can it be that the gear pump is supplying too much oil or is the trouble in the piston-rings? Answer: The pump can keep the splash basins no more than full but quite likely this splash level is altogether too high to take care of idling speeds although about right under heavy duty conditions. Some engines have means for automatically lowering the splash level at low throttle openings in order to regulate the oil supply. It is almost impossible to prevent smoking during idle operation for the vacuum is high in the cylinders and oil is almost inevitably drawn up past the rings. Possibly by using a scraper ring with drill holes in each cylinder and drill the oil



## New Overland Four The Ideal Five Passenger Car

It required only thirty days for our new five-passenger Overland to establish itself as one of the most popular cars on the Canadian market.

Now, its reputation has become International and the demand from Canada alone is far in excess of our allotment.

The Overland is a tremendous success—there can be no doubt about that. It has won its way into the hearts and minds of the Motoring World almost over night.

It has made more real friends, in a shorter space of time, than any other model ever produced by this Company. If you are at all familiar with Overland history, you will appreciate the significance of this statement.

There is, of course, a very definite reason for such universal endorsement of our new car. You will find it in the single word, **Performance**, as expressed through a strictly modern power plant and chassis.

The Overland is not a racing car, though it is easily capable of fifty miles per hour. What is vastly more important, it is an utterly dependable car—one of the most thoroughly

satisfactory motor vehicles that has ever been developed for the road.

By "Satisfactory," we mean that it possesses all the power and speed that a sane man could possibly desire. We mean that it offers the true luxuries of exquisite design, ample room, soft upholstery and velvety spring suspension—all these without the burden of excessive upkeep.

It is, in a phrase, the Ideal 5-passenger motor car—an incomparable investment in four-cylinder transportation. The logical recognition of this fact has resulted in a permanent demand that is World Wide.

We predict that you are going to hear the Overland referred to as the greatest dollar-for-dollar value on the Canadian market. It possesses such obvious advantages over the usual type of five-passenger car that this conclusion would seem to be inevitable.

However, you alone must be the judge of comparative values. We merely ask you to take one ride in the Overland and form your own opinion. On this basis we are content to rest our case because we know that our three years of experimental work and testing have, indeed, produced the finest of all light cars.

### A WONDERFUL TEST OF STRENGTH

At the Denver Horse and Stock Show recently, the New Overland Four five-passenger Touring Car leaped a 5 ft. hurdle. The Car was called the "Gasoline Horse" and performed after the jumping horses had cleared the 4 ft. hurdle. To clear the 5 ft. hurdle the Car leaped 18 ft. in the air and sustained a blow calculated to be 40,000 foot lbs., without breaking or showing the slightest evidence of coming through this terrific leap.

The car used was chosen haphazardly from the lot of regular stock cars, and was not especially prepared in any way. This should convince anyone of the reliability of the New Overland to stand up to any strain required of it on the P. E. Island roads.

The price, including spare tire and tube is \$1355, and is well within the reach of any man. For the farmers it is an especially good car, a load of 700 cwt. of any material may be carried in the rear seat, after the upholstery has been removed, which can be done in a few seconds, and after the load is removed the upholstery is snapped back into place and the car is again ready for passengers.

The new three-point Cantilever Spring System, which gives the 100-inch wheel base an additional 30 inches of Spring Base and easy riding qualities is a new departure in Motor instruction, and is without doubt the greatest invention yet.

Drop into our Show Rooms any day, examine this car, go over her carefully, whether you buy or not.

## PROWSE & MacKINNON

OVERLAND CARS

McLAUGHLIN CARS

## New Standards of Value \$1365 GRAY-DORT

F.O.B. CHATHAM WARTAX EXTRA Gray-Dort has brought peace-time standards of value to the motor car business. Greater value than the light car has heretofore offered. \$1365 brings you a car comparable with those costing several hundred dollars more.

LOOK FOR THESE THINGS IN THE CAR YOU BUY The Gray-Dort motor is big enough for its job—not stunted—3 1/2" bore and 5" stroke—with big water jackets and a big, honeycomb radiator. The crankshaft is husky—many pounds heavier than other builders of light cars think necessary. The pistons are extra-light and three-ringed. Special design prevents valve-warping. High-carbon steel gives toughness to moving parts.

The carburetor is a Carter—improved this year. Westinghouse starting and lighting. Connecticut ignition (newly improved). The whole chassis parallels the motor in quality. Heavy frame of channel steel. Husky rear axle, Chatham-built. Long springs, cantilever in the rear, and built here under our inspection. The big brakes now have Thermoid lining. A new steering gear, 50% larger and stronger than the light car standard.

The Gray-Dort is as pleasing to the artist and to the driver as it is to the mechanic. The smooth lines of the body are restful after so much of the extreme in present-day cars. The Gray-Dort finish, development of 60 years' coach-building, will win your instant, and lasting approval. Add the smartness of French-pleated upholstery, and a new top, tailored in our own shops.

AND THE ACE I The Gray-Dort Ace—the most beautiful light car of to-day. Sapper green body with handsome California top to match. Trouble Lamp and bull's-eye flashlight. Electric cigar lighter. Rear-visibility mirror. Plate glass windows. Oversize, grooved-tread tires. This is the de luxe car for the man who does not wish to pile up a tremendous operating cost. \$255 extra on the standard.

AND YET THE PRICE IS \$1365, (PLUS WAR TAX) You know that such a car as the Gray-Dort will be in heavy demand at \$1365. We have doubled our production this year. But there is likely to be a shortage. See the Gray-Dort dealer now.

PRICES The Gray-Dort 5-passenger car, finished in Gray-Dort green and black and with standard equipment is \$1365 F.o.b. Chatham. War tax extra. The roomy 2-passenger roadster is the same price.

THE GRAY-DORT SPECIAL For the man who wishes something a little extra in his car, we have built the Gray-Dort Special. Maroon body, with brown rayon top. Plate glass rear window. Grey curtains. Rookie tan wheels. Motometer. Tilting steering wheel. Real leather upholstery. Mahogany instrument board. Just the touches which lift this car above the ordinary. \$150 extra on the standard.

GRAY-DORT MOTORS - LIMITED Chatham Ontario



Sterns, McNutt & White Ltd SHOW ROOM, 159-163 QUEEN ST. Charlottetown Phone 521