The motor-car industry in the United Kingdom is progressing by leaps and bounds There seems no possible drawback to a continued period of great activity. Last year the British motor market was approximately worth twelve millions sterling The principal British motor markets are taxed to their utmost capacity At the present rate of production there will be over 20,000 cars of all grades made this year, the half-dozen leading firms being responsible for more than half this number.

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The disadvantages of the standard four-volt coil with its high-current consumption and consequent frequent necessity for accumulator charging, rapid wearing of platinum contacts, etc., are well known to all motorists, so that much interest attaches to the new two-volt coil named the "Voltoo," particulars of which reach us from the Motor Import Company, Christchurch.

The advantages claimed for this coil are — First— a big economy of current. The majority of four-volt coils consume from 1 to 3 amperes, but the "Voltoo" coil only takes 1-5 of an ampere, that is to say ⅓ or less, of that required by the majority of four-volt coils. It has indeed been repeatedly demonstrated that a 'Voltoo" coil will run a modern high-compression engine perfectly on a single dry cell (1.5 volts), consuming only 1-10 for an ampere Second—absence of pitting. Owing to the extremely small volume of the primary current, the great trouble of pitting of the platinums is eliminated, thus reducing to a minimum the expense and trouble of constantly renewing, trimming, and adjusting the platinum points. Third—spare battery dispensed with With a four-volt coil it is absolutely necessary to carry a spare accumulator, which both takes up space, and adds weight. Such a precaution is, however, quite unnecessary when using a "Voltoo" coil, as a standard four-volt accumulator constitutes a spare in itself, only one cell being in use at a time. This is, of course of especial interest to motor cyclists to whom both weight and space are important considerations

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The strides made by the commercial vehicle at Home, says the *Commercial Motor*, have been so rapid that manufacturers have been compelled to devote their attentions mainly to the Home demand. It must not be forgotten however that there is a vast field waiting to be opened up in the colonies. We were forcibly reminded of this fact during an interesting interview we had recently with Mr. A Roslington, an old member of the Yorkshire Automobile Club, who has just returned from a motor tour through Australia in the interests of the Belsize Company. Mr. Roslington tells us that the motor car is used very little as a pleasure vehicle in Australia. Cars are owned by farmers on up-country stations, and are used very extensively for purely business purposes Carting is still done by wagons but our informant was sure that the time was ripe for the motor wagon The well-to-do farmers are already owners of cars, and are fully alive to the value of the motor wagon which would be a real boon to them. It is important to give them the right thing at first. To use the colonies as a dumping ground is to put back the chance of business for years, if not for ever, because, once bitten, the colonial is for ever shy.

Another important point for the manufacturer to consider is that the colonial prefers vehicles of British manufacture, once his confidence in them is established. The opening-up of trade in Australia and New Zealand is well worth consideration and careful study. Mr. Roslington also informed us that there is a big scope for commercial motor vehicles in Ceylon What is required is a van that will carry two or three tons of tea from the plantations up-country to the coast A van body that could be locked up and barred would appeal to the planters, because the pilfering that goes on by the natives from the ordinary bullock wagons is so great that, if prevented, it would pay for the upkeep of the motor wagon At present, the journey takes six days by bullock wagon. They consider it would be covered in one day by motor wagon.

The Simms-Bosch High-Tension Magneto.

[By W. H. Trengrove.]

The Simms-Bosch high-tension magneto is so rapidly growing in popular favour that the following description and notes on the care of the invention will be read with interest.

The apparatus combines the functions of an induction coil with those of a low-tension magneto and contact breaker. One end of the primary wire is earthed while the other end is in connection with the secondary wire and also with the insulated side of the contact breaker. The other side of the contact breaker being earthed The primary current is complete only while the platinum points are in contact The condenser is connected across the contact breaker as in the ordinary accumulator method of ignition. This system prevents destructive sparking across the platinum points when they are parted by the action of the bell-crank lever that revolves inside the recessed fibre ring. The secondary wire is connected to one end of the primary and then to earth. The other end, which it is necessary to have extremely well insulated from the body of the machine, is connected to the sparking plug, which should be one of the best quality plugs specially made for the magneto ignition When the platinum points are mechanically separated the primary current stops flowing The lines of force fall in upon the armature core, cut the secondary coil producing a current of high voltage, and at once a spark is produced at the plug The distance between the points of the sparking plug should be as near as possible one fiftieth part of an inch to obtain the best results

Locating Faults.

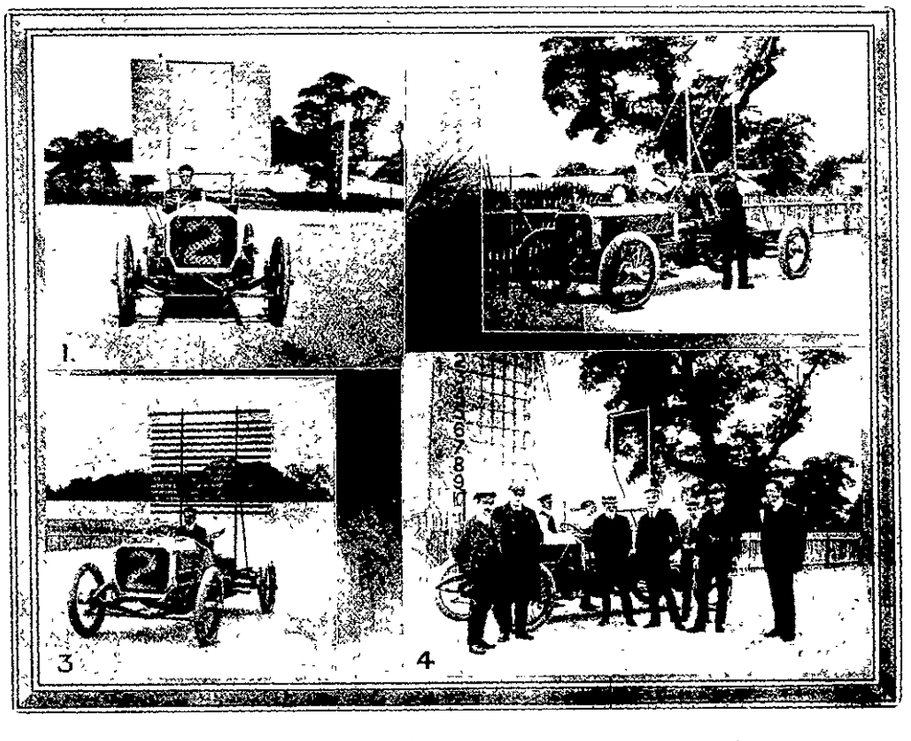
If there is a failure of the ignition system the sparking plug should be first suspected as the most likely cause, provided that the contact breaking mechanism has been kept thoroughly clean from dust and oil A key spanner or piece of wire will help to find a fault It should be placed on the secondary terminus when the secondary wire has been removed, and the end placed close up to the field magnets so as to leave a gap of about one-twenty-fifth of an inch It then the armature is quickly revolved a spark should flash across the gap at regular intervals If the spark is uneven or does not pass at all, the fault is in the magneto and is probably caused through a bad contact due to oil or dirt The point on the flat spring that presses on the centre of the brass cover and the carbon brush on the screw should be very thoroughly cleaned Other causes of stoppage are the failure of the bell-crank lever to make and break contact, or misfiring, through the fibre ring being worn out which should be replaced with a new fibre ring

Lubrication.

This is one of the very serious items that is far too often overlooked or neglected, causing ruin to the magneto and worry to the owner. The armature shaft must certainly be well lubricated with thick oil of high quality. It is of the utmost importance that after every two or three weeks running the oil reservoirs should be washed out with kerosene and then filled up again with oil until it runs out of the overflow pipes. By strict attention to this matter one will be rewarded with better results from the magneto.

Setting the Magneto.

The correct setting of the magneto in relation to the engine is a simple matter. As soon as the piston has reached the top of the compression stroke the timing lever with gunmetal strap and fibre ring should be taken off A line will always be found cut on the edge of the contact-breaker disc, and a similar line on the right side of the front bearing the two lines must be set to coincide exactly, then the connection between magneto and motor, either by chain or gear wheels, can be connected up. The Simms-Bosch magneto can be easily adapted to work in the opposite direction of rotation by fitting another fibre ring with the recess differently placed. The life of the fibre ring, from writer's experience, is about 3,000 miles.



SOME RECENT EXPERIMENTS WITH WIND-RESISTING APPLIANCES.

Tractor and Mowing Machine Combined.

The considerable degree of success which has attended the introduction of the internal combustion motor into the field of agricultural enterprise has led many farmers, who are generally of a conservative disposition to adopt this compact form of power generator in one form or other The uses to which a petrol or paraffin engine may be put on the farm are innumerable, but the purposes for which such an engine is more generally applied are the hauling of ploughs, harrows, reapers, binders and other implements, which previously were drawn by horses Our readers are probably familiar with the Ivel, the Saunderson and other agricultural tractors that are in use throughout Great Britain and abroad, but the following description is of a new machine, which embodies tractor, reaper and portable power plant, the invention of Mr. W. Sharp, mechanical engineer, of Lower Ridge, Barrowfield, Lancashire. Two of these machines have been made by Mr. Sharp, and are operating very successfully in the Barrowfield district Of one of them with the inventor driving we withhold an illustration This particular machine has clearly demonstrated its ability to cut three acres of grass per hour, at a cost of sixpence per acre for labour, fuel, and oil The question of forming a syndicate or otherwise arranging for manufacture in large quantities, is under consideration.

As certain British and foreign patents are still pending we are able only to give a general outline of the design and construction of the machine.

A two-cylinder engine is fitted, and petrol is used as the fuel for the two experimental machines: it is hoped however that paraffin may be used in the future. The cylinders are 85mm in diameter, and the piston stroke is 115mm High-tension ignition with coil and accumulator is employed and a large, gilled-tube radiator is fitted in front of the tractor The power of the engine is transmitted from the engine to the rear road wheels through a cone clutch of the leather-to-metal type, and a differential countershaft and spur pinions which mesh with internal-toothed rings that are bolted to the rear wheels Only one gear-ratio is provided, but this is so arranged as to be available for travelling in either direction and gives a very easy reversing motion Referring to our sectional view of the countershaft casing it will be seen that a bevel pinion transmits the drive to either of two bevel wheels; these are loosely mounted on a shaft and their inner faces are provided with ratchet teeth The central sliding piece is operated by means of a bridle and a lever the latter of which projects through the casing and is in a convenient position for manipulation by the driver, the central, sliding member is arranged to slide on feathers, and ratchet teeth similar to those on the bevel wheels, are cut in its sides. The form of these teeth is such that there is never any possibility of "missing gear,"