

Alldays Motors.

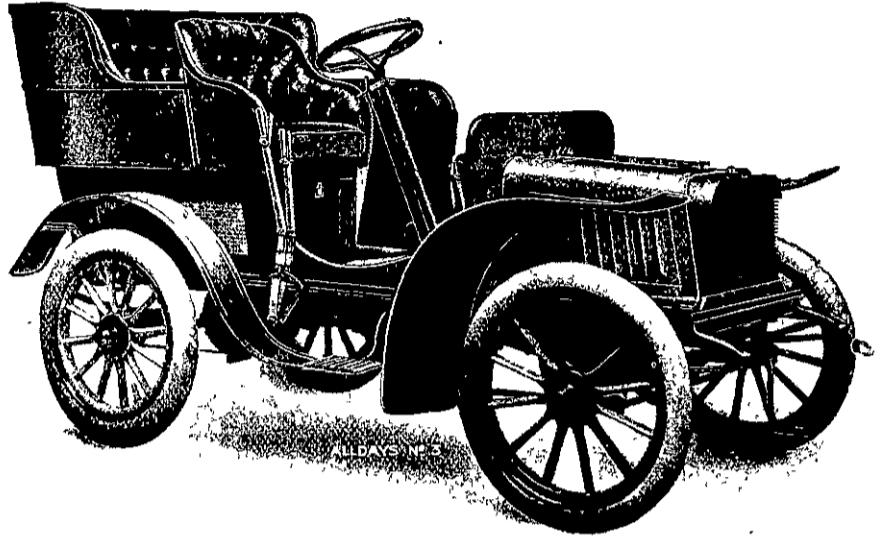
In 1901, when a few of the old-established engineering firms in England were turning their attention to the possibilities of the motor for domestic and commercial uses, Mr. J. E. Jenkinson, the managing director of Messrs. Jenkinson & Co., Ltd., of Wellington and Masterton, Wairarapa, looked in that direction for the supply of a high class of car, but still at a moderate figure, and eventually negotiations were successfully completed with Messrs. Alldays & Onions Pneumatic Engineering Company, Ltd., of Birmingham, the makers of the now famous Alldays motors. Established in 1650 (over two and a half centuries), the excellence of their metal-working and engineering specialities is known to engineering concerns throughout the world. That the selection of the Alldays cars has been a judicious one is splendidly exemplified in the success of the machines already in use in the Wairarapa. One particular instance is worthy of note—a 10-12-h.p. double-cylinder Alldays tonneau recently supplied to Dr. M. a'Beckett McCarthy, successfully climbed, without changing from direct drive, a hill that all other cars, including some rated up to 20 h.p., had to change gears to surmount, even without passengers. This climb on direct drive is all the more remarkable as the car carried five persons up. A special and valuable feature on the Alldays car is a sprag which prevents any possibility of the car running back should it be necessary to stop on a grade. This sprag acts independently of the three powerful metal-to-metal expanding brakes. Three speeds forward and one reverse are effected by Panhard gears of generous proportions, the drive is direct on high speed by universally jointed cardan shaft, thus avoiding necessity of exposed chains. The wide tread, 4ft. 8in., is specially noticeable, and although this is optional, it must effect a considerable saving in tyres. Another convenient arrangement made by Messrs. Jenkinson & Co., Ltd., with the manufacturers is that the finish and upholstery is executed to purchaser's individual wishes, and comprehensive stocks of duplicate and spare parts are consigned with each car. For domestic, professional, or business uses the Alldays motors seem to be all that is desired. The contour of the bodywork is pleasing, and ample accommodation is provided for luggage when touring. We have to thank Messrs. Jenkinson & Co., Ltd., for the above illustration.

National Gas Engine.

The National Gas Engine Company was organised in 1889 for the purpose of making gas engines on the Otto cycle, with several improvements patented by Mr. Henry N. Bickerton, who had previously been connected with the manufacture of gas engines for a number of years. The engine then produced by the Company very soon became widely known as the "National Improved Otto," and almost immediately occupied a front rank in the gas-engine

world. The addition of other improvements to the Otto cycle has given such satisfaction to purchasers that the demand is even now constantly in advance of the supply, notwithstanding the continued extensions being made at the works in Ashton-under-Lyne, England.

In order to meet this growing demand, and to ensure the making of gas engines in an economic and highly efficient manner, the National Gas Engine Company was in the year 1897 formed into a limited Company. Two gentlemen of long experience in connection with the trade then joined the Board—viz., Mr. Henry Prescott and Mr. H. W. Bradley. Again in the year 1900, owing to the continued increase in the demand for National engines, a further re-construction was made, increasing the capital considerably, and immediately



10-H.P. 2-CYLINDER ALLDAYS.

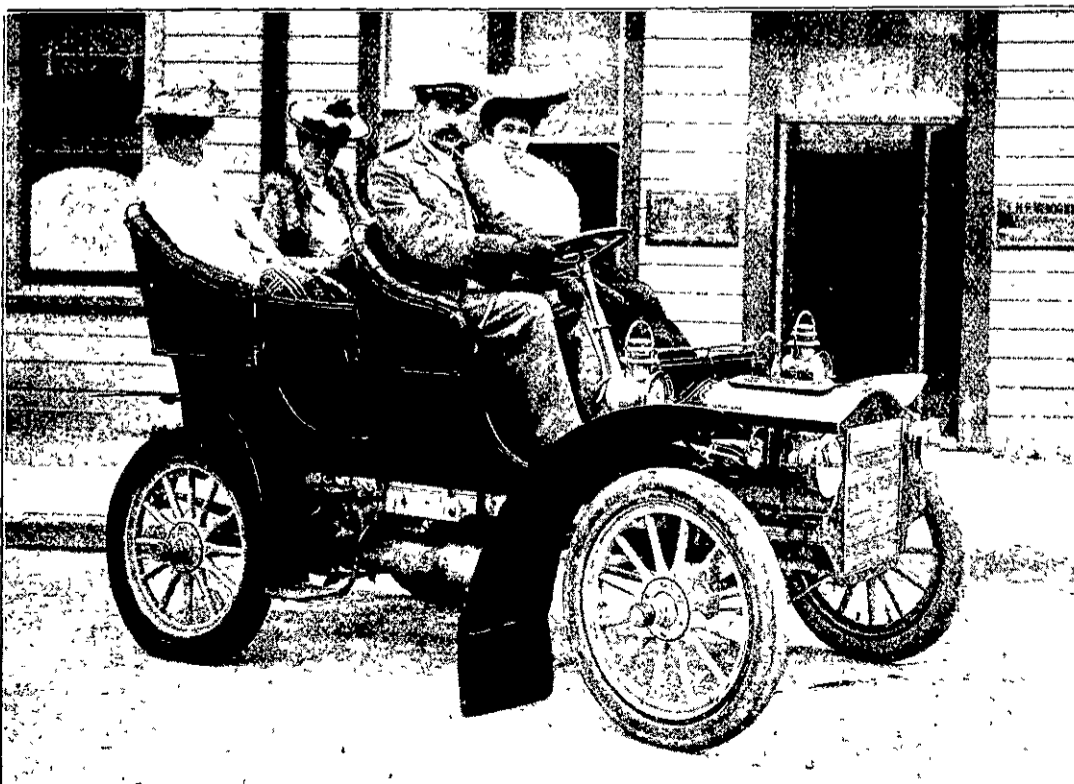
afterwards a gentleman of world-wide reputation in connection with gas engines was added to the directorate—viz., Mr. Dugal Clerk.

The National gas engines are designed from one standard type, which must prove that every detail has been arrived at after great consideration. The small engines have identically the same features throughout as the larger engines. The following are a few of the important features embodied in the National gas engine—perfect regulation of speed at different powers, easy and safe starting by inexperienced hands, durable ignition tubes, gas consumption strictly in accordance with the power used, every convenience for cleaning necessary parts, perfect self-lubrication without waste, highest-class workmanship with simplicity of construction, magneto-electric ignition fitted to all the larger size engines. In designing these engines the paramount necessity of ensuring permanent successful working has been carefully observed.

as in the mono-cylinder motor of the same power, is divided into four equal parts. This ensures a much more continuous and regular transmission of the power given out by the motor; furthermore, the use of the four-cylinder motor allows an almost perfect balance to be attained between the various working parts. This is impossible with any number of cylinders less than four, and for this reason alone the four-cylinder motor has great advantages, greatly minimising the vibration and eliminating the strain on the frame of the machine. The transmission of this new four-cylinder machine is on the bevel-gear system. The whole arrangement is protected by a dustproof case filled with grease to ensure efficient lubrication of the various parts. The use of this mode of transmission necessitates a great regularity of movement, and this is one reason why the four-cylinder motor has been adopted. To avoid the shocks due to the explosions in the motor being transmitted to the bevelled gears, an elastic coupling contained within the fly wheel is interposed between them. The four-cylinder machine is fitted with a magnetic ignition, and a pair of elastic front forks. This fork embodies a combination of steel springs and some rubber plugs; it has for its object the avoiding of jerks. This useful effect is only produced in the plane of the steering of the machine, and in no way affects the steering. The fork is noiseless in its action, and the way in which it conduces to steady running of the motor is very remarkable.

The machine is also fitted with an automatic carburetter, so that the gas is automatically made with the right amount of air and naphtha. Lubrication of the motor is worked by one pump from the front of the machine. There is perfect safety in descending steep hills, for the machine is provided with two very powerful brakes (band and rim).

An illustration of this machine will be found on page 118.



MR. F. N. R. MEADOWS AND HIS 12-H.P. CADILLAC; MRS. MEADOWS AND THE MISSES VON DADELSZEN. [Hardie Shaw, Photo.]

F.N. Motor Cycles.

The Fabrique Nationale people, Liege, Belgium, are well-known makers of motor cycles. They do not make these motors for racing purposes, but aim at producing only machines for touring purposes.

The latest model for 1906 is a four-cylinder motor, for which they claim many advantages over the single-cylinder motors. Heretofore, the four-cylinders have only been used in the construction of motor cars; but anyone who has had experience in using them will at once recognise their advantages. The analysis of its working shows that one-half revolution of the motor corresponds with one stroke of one of the four cylinders. Therefore, the explosion, instead of being used once for two revolutions

There is ample room for improvement in the brakes usually employed on road vehicles. Some of the patterns now in use were probably familiar to prehistoric man. So, at least, thinks Mr. P. B. Curtan, of 60 Queen-street, Melbourne, who is interested in an automatic brake, principally for heavy vehicles, that promises to be widely used. When a vehicle to which the device is attached is descending a gradient, or when the speed of the horse or horses is reduced, the brake acts automatically, by means of the pressure on the breeching in a one-horse vehicle, and the backward pull on the collars when two horses are used. If desired, the brake can also be worked by a foot or hand lever, and can be locked on or off when necessary.