

metal-to-metal expanding clutch has not met with the general acceptance which was prophesied for it by enthusiasts, and many makers of repute continue to fit the leather clutch. The adoption of a universal joint between clutch and gear box, enabling the former to be easily withdrawn without disturbing the latter, is becoming a very general feature. In gear boxes the pattern with two sliding sleeves seems the most popular, and there is a laudable desire to avoid bringing lever through the bottom of the gear box. Almost all the larger cars have ball bearings to the gear-shafts. When live axles are used, the driving wheels most frequently run on extensions of the axle sleeve. Several forms of spring drive in connection with propeller shafts are noticeable. The friction surfaces of brakes are now more frequently renewable, and in some the means of adjustment are really convenient.

ABSENCE OF NOISE.

Motor cars have been considerably quietened during the last year or so, and it is rather interesting to examine how the noise has been eliminated. Most carburetters are now fitted with the automatic air regulator, a device which is certainly a great step to producing a quiet engine. Another point to look to is the valve-gearing. At one time there was not very much attention paid in this direction, and the half-time wheels were made very small, with the result that they rang and chattered in a most objectionable way. Now, however, we find very broad gear wheels; fibre wheels are also largely used, and consequently the valve gearing of the modern car runs as quietly as a clock. Outside road wheel brakes are a frequent source of noise, as, after they have worn a little, they rattle in an annoying manner. Now, however, the external expanding brake is almost universally used, and of course, if properly constructed, there can be no rattle about them. In the latest models of most manufactures long pistons are used, as it is found that they do away to a large extent with the objectionable knocking noise in fast-running engines.

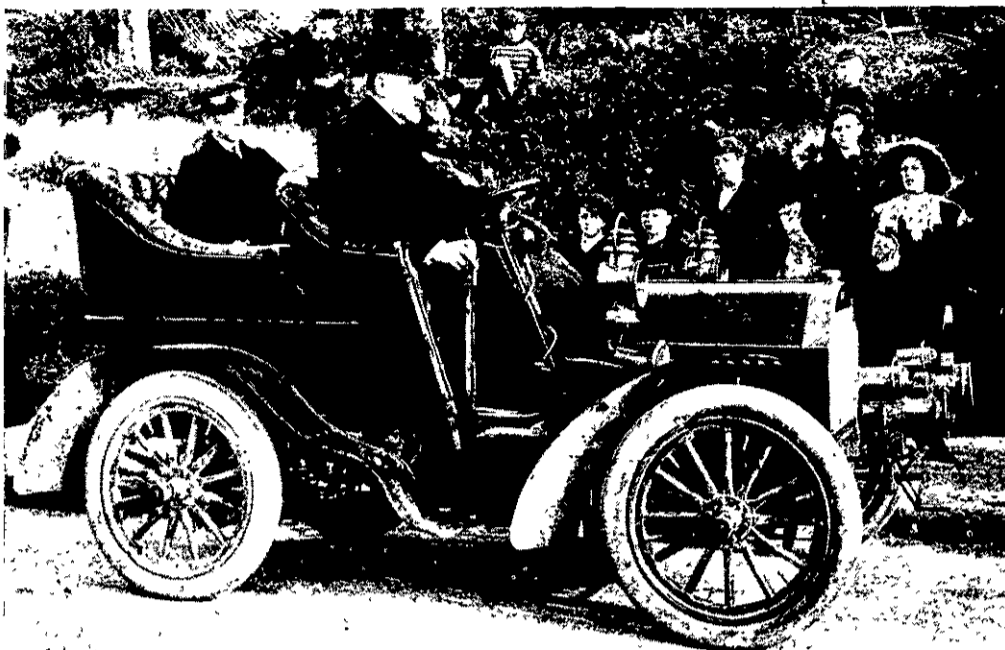
THE SHAPE OF THE BONNET.

A distinct improvement is seen in the shape of the bonnet fitted to many of the 1905 models. In numerous cases they are of the square type, which accords with the present fashion, and in some cases very much like those seen on the small cars of 1904. Slight changes have been made, however, which tend to improve the naturally ungraceful lines of

Where are the Steam Cars?

STEAM cars in the early days of motoring received a considerable set-back by the introduction of a number of cheap, light runabouts which ran well for a time, but soon got out of order, and gave steam

part owner of a car, any lady or gentleman interested in motoring, as well as importers of cars, are eligible for election as members. At present the officers are:—President, Dr. P. H. Barr; Vice-Presidents, Dr. Deck, Dr. Moore, Dr. Andrews, Dr. Gibbs, and Mr. A. P. Lucas; Committee, Messrs. Moore, Mercer, Glasgow, A. P. Lucas, Martin, Vining, Bis-



HON. T. W. HISLOP'S 12-H.P. LOCOMOBILE. MR. HISLOP HAS RECENTLY COMPLETED THE TRIP TO ROTORUA AND BACK, 1,110 MILES, WITHOUT A MISHAP. [Savony, Photo.]

cars a bad name. There is, however, now on the market a much better class of car, in which the principal defects of the earlier types have been overcome. The boiler has been replaced by a steam generator that instantly flashes the water into steam, and the control of the fire, water, and oil is automatic. Condensers are also fitted, and the mechanism of the car has been simplified as well as strengthened. Among the principal objections to the steam car is the relatively small storage capacity

ley and Dr. Andrew; Examiner, Mr. M. A. Jenny; Hon. Secretary and Treasurer, Mr. M. A. Jenny.

The Vanishing Horse.

As many as 25,420 horses have been diverted from the tramways of the United Kingdom in the six years since 1898. The number employed in the year that ended March 31 was only 13,357.

Electrical energy is expanding so rapidly that 1,780 miles of tramway routes are now worked by electricity, and only 209 miles by horse traction.

The converted sinner makes the best saint. Hence France and the Marquis de Dion are now the greatest enemies to speed-race sinners. Says the Marquis, "Speed—what is speed? Speed can be had easily enough." This is true—now. But if France had not five years' motor racing behind her she would not find speed in a car so easy to obtain. America, on the contrary, is voting solid for speed. Mr. Clarence G. Dinsmore says, "International races do for motors what the Derby does for horses." Mr. Charles Glidden thinks discontinuance of road racing would lower the standard of motor breeding. American importers of French cars say that if France persists in an anti-speed programme it will have a disastrous effect on the French industry.

A leading American motor paper, commenting on the fact that three Americans drove foreign cars in the Vanderbilt Cup race, calls it a parody on patriotism, and says Foxhall Keene, John Warden, and George Heath, risking life and limb that an American trophy might not be won by America, "may be good sportsmen, but they are mighty poor Americans."



MEET OF THE NELSON AUTOMOBILE ASSOCIATION. [Photo by Mr. M. A. Jenny.]

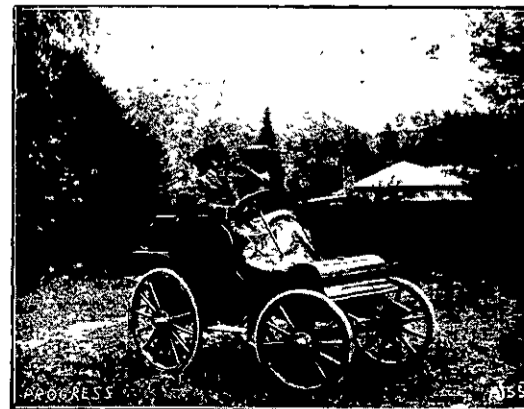
this type of bonnet, and to give it a neater and less bulky appearance. The square bonnet came into existence with the honeycomb radiator, and it is largely through the continued use of this type of cooler or its equivalent that the shape has been retained. The chief mechanical reason for its use is that it affords a position for the radiator in which this part is protected to a large extent from dust and dirt, and yet subjected to a good natural draught. The arrangement also provides easier access to the forward end of the crank shaft than when the radiator is hung below the frame, and reduces the lengths of piping in the circulation system to a minimum. So far as the accessibility of the motor is concerned, it would seem that something is lost, for the radiator in front, the mud-guards over the front wheels on either sides, and the dash board at the rear enclose it in a fenced-in space, as it were, and considerable reaching must be done to get at the lower parts.

There are many over-cautious people who imagine that the purchase of a car is a risky investment.

for water and fuel. Some cars are, however, designed to carry sufficient of both to travel 150 miles. The machinery occupies more space than that of the petrol car of approximately the same horse power, thereby limiting the available room on the car. The machinery is also more complicated than that of a petrol car, and more liable to get out of order, the pilot light especially being a part that frequently gives trouble. Moreover, the cost of running per road mile is greater than that of a petrol car of similar capacity and carrying power.

The Nelson Automobile Association.

The Nelson Automobile Association is a progressive New Zealand body. Mr. M. A. Jenny, who was also chiefly instrumental in founding the similar association at Canterbury, established this club in June 1904. Although at present only a small body of about 20 members, there is every reason to expect its steady growth. Any owner or



THE PRESIDENT OF THE NELSON AUTOMOBILE ASSOCIATION AND HIS NEW ARROL-JOHNSTON CAR. [Photo by Mr. M. A. Jenny.]