MOTOR NOTES FOR MEDICAL MEN.**THE MULTIPLICATION OF ACCESSORIES.**

By H. MASSAC BUIST.

THE welcome development of the leading manufacturers in marketing their cars in a complete condition for road service at a fixed price is not without its penalties, even as the seemingly endless enterprise of the accessory maker is not without its drawbacks. The passage of almost every season sees one or two car features, formerly unthought of, being accepted as essentials, without which no machine is henceforth supposed to be complete. One result is that, despite the use of better steels, better manufacturing methods, and better schemes of design, we have not been reducing the weight of middle size and large cars for ten years. The adding of such material as was needed to fashion doors to the front seats as soon as the average car became sufficiently reliable to obviate the necessity to be constantly jumping out on to the road to put something right, was a legitimate and essential development. But we have now reached a period when the completely equipped car in the latter-day sense of the term is vastly too complicated alike for reliability and cost. As a rule, when a manufacturer standardizes the fitting of what is loosely called an accessory, whether it be a wind screen, a signal horn, or a lighting set, he incorporates that device with the scheme of the vehicle so that it ceases to be an accessory and forms part of the complete design. This is a point especially to be noticed, because it has often quite as much to do with the satisfactory working of the given part as has any merit in the design and manufacture of the accessory itself. It is a fairly safe rule to assume that when a maker standardizes any fitment it will answer well, though we must not blind ourselves to the fact that there are historic exceptions, as instance the failure of front-wheel brakes on all the British-made vehicles save Argyll cars, and that despite the fact that the principle of the front-wheel brake can be worked out absolutely right. Defeat has been experienced only because the correct principles have not been exploited.

DIFFERENCE BETWEEN FIRST THOUGHTS AND AFTER-THOUGHTS.

Because so many makers are adding details to the equipment of their cars as standardized this year, the number of private owners who propose to have their vehicles adapted in imitation increases at an alarming rate. In going about the country it is easy to see in what clumsy fashion most of these extras are fitted, with the result that each starts its service under the most unlikely conditions to enable it to work reliably. The owner should always make a note of the remarkable manner in which the addition of a few items of equipment to a car can increase its weight. Except, possibly, when considering a spare wheel, few people think of the weight entailed by adding an accessory. The medical man, whose essential requirements are reliability and value for money, may, therefore, be well advised not to choose a car to which he will feel it necessary to add a number of accessories, but rather to seek the sort that is marketed in the standard condition with those fitments incorporated in the original design, so that they will have the best possible chance of working satisfactorily. Apart from this, knowledge of the accessories trade reveals that, while it will not pay the maker to supply the private car owner with an accessory under a certain price, he is, nevertheless, able to supply his wares in series to car-makers to standardize at a third, and sometimes a quarter, the price per unit that he has to charge the individual. Indeed, many of the best, and therefore most responsible, accessory makers will have no dealings with the individual, but will only supply manufacturers.

A POCKET-SAVING HINT.

If the inquirer will compare the cost of buying any chassis he has in mind and fitting it up according to his original ideas, with the cost of any motor car on the market which in standardized condition most closely approximates to the specification he has drawn up for himself, he will invariably find an enormous saving of initial outlay in acquiring the standardized article, and he

will find the details which compose it put together in a manner incomparably more orderly than any succession of fitters of any specialities could contrive between them to place their respective devices on any individual chassis selected to be the victim of them.

At the moment, perhaps, the most widely spread desire of owners of ordinary cars is to have them specially fitted with engine-starting devices. It should therefore be made known that the makers of the systems which have been longest and most widely standardized know from experience that satisfaction cannot be given unless the apparatus is incorporated in the original scheme of the car. Unquestionably, the mechanical starting of the engine is so necessary that it will be the universal method in a few years. But in the meantime there is not sufficient experience behind the business to justify the medical man in adapting such apparatus to his own car. The only method at present open to him that offers reasonable prospects of satisfaction is to purchase some sort of car on which an engine starter is standardized; having been incorporated in the scheme of design. Even so, there are not many cars on the market with engine starters which can be recommended. One reason is that at present the cost of making a satisfactory apparatus is proportionately very great, so that a goodly number of manufacturers are fitting engine starters which they know not to be in the front rank, but which they employ because they can get them at the price they can afford to pay in face of what the public is willing to give for the complete car. It is scarcely telling tales out of school to intimate that at the Motor Shows at Olympia next autumn, it will be by no means a general thing for cars to be standardized with mechanical motor starters.

THREE EXAMPLES OF COMPLETE EQUIPMENT AT A FIXED SUM.

The motto of the medical motorist should be: Keep your car equipment as simple and straightforward as possible. As the medical man, nevertheless, has present need of cars, sometimes of the middle size, sometimes of the small class, each in a condition of completeness for road service in the latter-day sense of the term, I propose on the present occasion to make note of three distinct sizes of cars eminently suitable for doctors' use, each of which illustrates the principle of standardization and the gains that may come to the individual motorist through its being exploited.

The Larger Car.

The first and largest of these is the 16-20 h.p. four-cylinder worm-driven Wolseley car that has the same size engine as the Royal Automobile Club is endeavouring specially to develop through promoting the two-days' race for the Tourist Trophy in the Isle of Man in June. By reason of the taxation being fixed according to the bore measurement, this product of the Vickers' motor manufacturing company comes under the 6-guinea tax, though its volume is only a fraction over 10 per cent. larger than the three-litre size of car, the motor being 20.3 h.p. according to R.A.C. rating.

The medical man will probably classify his impressions of this car into two groups. In the first he will find a machine of considerably more than average accommodation in the middle size of car that looks what it is—a motor carriage of the highest grade, designed with very clean and artistic lines, and having incorporated in the original scheme all the necessary equipment ready for the road. The five-seater flush-sided body has a deep scuttle dash, and encloses all the control levers, the materials, including alike chassis steel and body upholstery, being of the first quality. The waterproof canvas rain hood is of the "one man" type which, in extension, clamps on to the wind-screen and requires the use of no straps stretching forward on to the dumb irons or wings. The two-jointed adjustable wind-screen has a folding and swinging top, the Rudge-Whitworth detachable wire wheels have the latest locking device, and C.A.V. electric dynamo, together with switchboard and accumulator, are embraced in the standard equipment and scheme of design for an inclusive price of £475. As an essay in capital expenditure, therefore, the medical man is able to foresee very clearly his position in considering the acquisition of a car of this size

and quality, which is certainly unsurpassed as regards value for money.

When he comes to try the machine, as I have done annually for some seasons past to keep myself abreast of its gradual evolution, he will discover that the accommodation offered is more than commonly ample and that the proportionately low seats are remarkably well schemed, so that, even in the longest day's run, one does not experience fatigue, because the contours of the back cushioning are contrived to fit the natural shape of the body. In working, luxuriousness of suspension, ready powers of acceleration, light steering, ease on tyres through the worm drive, the refinement of the engine, and the plangent springing; and uncommonly economical petrol consumption are points which stand out clearly in one's mind. Another quite remarkable quality is the handiness with which a vehicle of this size can be manoeuvred. I have never seen so large a car that could be turned in so small a compass. The motor is very flexible, serving admirably for town carriage work, in that it will pull the car smoothly at little more than a walking pace and will then accelerate speedily without stuttering or vibrating.

The Doctor's Middle Price and Size.

The next example so prominent in its class as to call for consideration is the 12 h.p. four-cylinder, worm-driven Rover car that comes under the 4-guinea tax, and which is unquestionably the machine of the year in the price class limited at £350 complete. The Rover Company now makes no other car but this, with the result that it is being manufactured by the thousand at works entirely equipped for the production of this one highly specialized model, which many manufacturers at home and abroad are striving strenuously to imitate. From the early days Rover cars have served the medical profession well, but none has been produced of such good materials or under such favourable conditions as this 12 h.p. model which has been three years on the market, and which, by manufacturing it in quantities, it is possible to furnish this year without increase of price, but with longer wheelbase, longer springs, more body length, deeper seats, stouter propeller shaft, larger back-axle worm, "one man" hood, all metal adjustable wind-screen, and better detail equipment, including ventilators in the dash, improved non-rattling bonnet design, detachable petrol tank, clutch stop to enable beginners to change speed quietly, grooved front tyres, a very handy roller on the accelerator pedal, and a complete Rotax-Leitner dynamo, accumulators and electric lighting equipment, including lamps.

In service we find here again those characteristics which are necessarily almost invariably peculiar to the pioneer in each class because they cannot be reproduced by mere process of copying, but are evolved through cumulative experience. The motor has been very slightly improved in minor details, whereby it gives fully 5 per cent. more horse-power, which accounts for the fact that when the car is on the road it is discovered that the extra power necessary to drive the dynamo, also to deal with the weight of the extra equipment, including the longer and stronger frame, and so forth, is available, so that there has been no sacrifice of acceleration qualities. The lines of the car are notable for their simplicity, with the result that the dashboard and other details are very clean, while the manufacturers are further deserving of high praise for having proved beyond a doubt that, when properly designed, a middle-size car of this sort can be quite satisfactory with a three-speed gear-box, especially since it does perfectly all ordinary work on the top gear, including travelling at over forty miles an hour on the flat with full equipment. There is this great gain in the three-speed gear-box with the superposed shafts—namely, that compactness is achieved, therefore great strength and absence of vibration, with the result that it is incomparably more pleasant to have either of the Rover indirect speeds in service than those of the most expensive machines having four-speed gear-boxes, because the Rover sort works so quietly. This car is proportionately light on tyres, is on the right side of twenty miles to the gallon in the matter of fuel consumption, and is commendably free from complication, while being second to none in the completeness of its standard equipment. In addition to all these points, it must be had in mind that it is no experiment, but a proved product.

A Pioneer Type of Light Car.

In the third category we may take an example of a pioneer type of light car in the sense in which that term is currently understood, and as produced complete for the medical man who has not more than £200 to spend. This is the two-seater, four-cylinder, water-cooled, Coventry-built Standard light car that comes under the 3-guinea tax, the engine having a bore measurement of 62 mm. and a piston travel of 90 mm. Here, again, we have the principle of the three-speed gear-box, combined with a form of worm drive; but the standardized lighting equipment is of the acetylene sort, two headlights as well as the side and tail lights being provided. The rainproof hood that goes over the two seats can be manoeuvred with one hand. The spare wheel is of the Sankey detachable pressed steel variety. Points about these wheels are the ease with which they can be cleaned and their proportionately great lateral strength, which is so important a factor in the event of side-slipping from any cause.

I have made a study of these cars since they were first placed on the market, more than a year ago, and have never heard an ill account of one. On the contrary, I have particularly in mind a medical man who, as a novice to motoring, did what might ordinarily be considered a risky thing in acquiring one of the earliest examples of these machines. He has nothing but praise for it after more than a year's daily service in his work, and in addition he has taken his wife and two small children on a holiday tour with it. During the last six months a considerable number of these vehicles have been shipped abroad for Colonial service, and reports of them go to show that they are standing up well under such conditions.

From the driver's point of view these cars, which have a smart appearance and no suggestion of cycle-car practice, are very simple to handle. There is really little to do but steer. The little motor is very efficient, giving about 18 maximum horse-power in standardized condition, so that the machine is proportionately fairly powerfully engined, giving a ready acceleration, while the worm-drive itself is smooth. Brevity of the wheelbase is, of course, a point of advantage in acquiring a light car where garage accommodation is strictly limited. The seats avoid a tendency, manifest in certain light cars, whereby the user seems to be so near to the ground that one might be pardoned for assuming that he was on a sledge. In this Standard car, the driver and passenger are accommodated at a reasonable height from the ground, yet without any sacrifice of stability, for another good feature is the proportionately ample breadth of the track.

Those who require a machine for use in places where conventional roads are none too plentiful will appreciate the good clearance this car has in relation to its over-all length. It is very economical of petrol consumption, running some thirty-five miles to the gallon in average service. It is, of course, cheap to maintain in tyres. The construction, though having about it nothing of the experimental, but employing well proved practice throughout, fully justifies the manufacturers in selling it at so moderate a price as £195 complete under a guarantee for a term of years. This example may be considered the pioneer of the light car as produced on conventional lines, and therefore as a contrast to the Stellite light car produced on fresh lines which were discussed in these notes last month. A great point about the Standard light car at this period, when most machines of this class are brought quite freshly before the public, is that it has been on the market for more than a season.

THE *Tropical Diseases Bulletin*, vol. iii, Nos. 2, 3, and 4, contains reviews and abstracts, among other subjects, on amoebiasis, sprue, filariasis, cholera, malaria, kala-azar, sleeping sickness, plague, leprosy, and undulant fever. Reference is also made to papers dealing with the question of the white race and the tropics. Most people who have studied this subject in detail now conclude that there is something, in addition to definite disease, prejudicial to the prolonged stay of white people in the tropics. Sir Havelock Charles's paper on "Neurasthenia and its Bearing on the Decay of Northern Peoples in India," clearly shows that climate undoubtedly has an effect upon white races. Nervous disorders, commonly talked of as neurasthenia, are the chief cause of invaliding from the tropics.