

The Auto., November 26, 1914.

The AUTO

-MOTOR JOURNAL

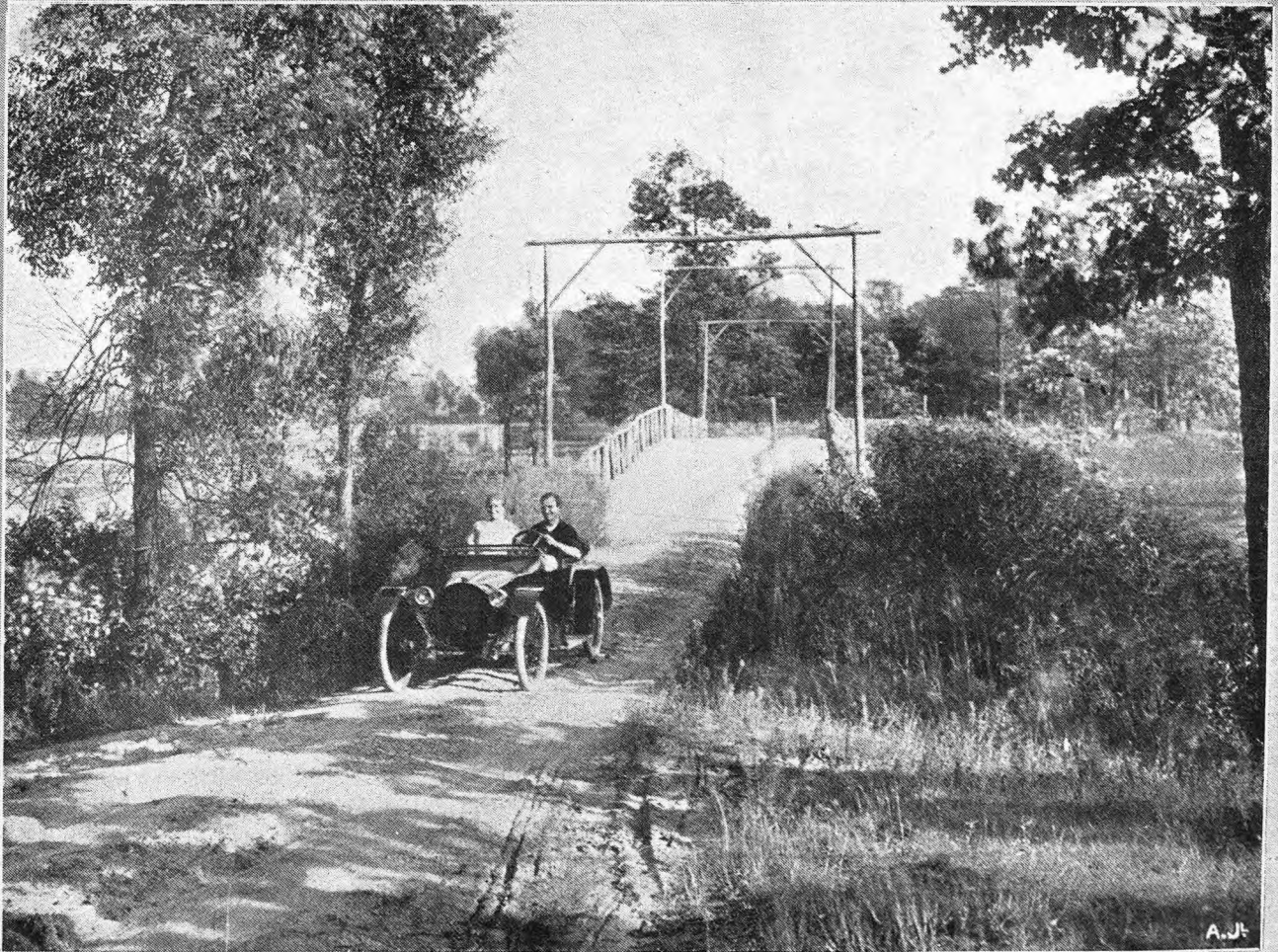
“‘THE TIMES’ of Automobilmism.”—*Press opinion.*

Founder and Editor: STANLEY SPOONER.

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In the by-ways of America with a light car.

The AUTO (YELLOW COVER).
MOTOR JOURNAL

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Passing Events

The AUTO. devoted to a "Buyers' Guide" of the cars that are being offered for the selection of motorists, new and old, for the 1915 season. Having regard to the fact that, owing to the European War, it has been resolved by the Society of Motor Manufacturers and Traders not to hold the annual Exhibition at Olympia this year, the "Guide" on this occasion assumes a much greater importance than in previous years, affording as it does to would-be purchasers a means of ascertaining with a minimum of trouble the

features and prices of the many different models now on the market. Hence, we have made special efforts to render the "Buyers' Guide"—which title, by the way, originated with the AUTO.—as complete as possible.

We have already expressed the view that, even if the Show had taken place as usual, it would have demonstrated that, although a few makers have introduced some new models, the cars prepared for next year would show, generally speaking, no radical change from those of 1914. From the detailed information we have been able to collate, this view has proved to be correct. Here and there, of course, refinements have been made in the way of turning out cars in a more completely-equipped condition, especially in the provision of electric lighting dynamos and engine starters, and, in some directions also, prices are being slightly modified, although, on the whole, having regard to the advancing cost of materials, the latter show little if any reduction.

As a matter of fact, a period has been reached in the history of automobile development when no further radical departures may be anticipated. It is true, of course, that the motor vehicle is far from having reached a state of perfection. There is still much to be done in increasing the "efficiency" of the machine as a whole, that is to say, for example, in reducing the amount of power lost between that developed by the engine and that imparted to the driving wheels of the vehicle. In this direction motor engineers have still plenty of work before them, but, in our opinion, the ultimate goal is more likely to be reached by stages than by any revolutionary departures. Thus, in the future, while between the cars of 1914 and those of 1924 the distinction may be almost as great as between those of 1904 and 1914, the difference between the models of two succeeding years will, we think, only be found in "detail refinements"—a phrase which has become a familiar one in motoring circles of late.

There are, of course, some people who regard this as poor progress and business, especially from the manufacturers' point of view, in that it removes the necessity from the motoring public of purchasing a new chassis at frequent intervals. On the other side of the scale, however, the car owner, either existing or prospective, has every reason to be satisfied that cars are not only now being built to last, but also that the annual change in their design and outward appearance is so small that he need have no qualms as to running a well-trying friend so long as it continues to work well and give satisfaction.

As for the manufacturers, although repeat orders from the same clients may not be so numerous and frequent as in the early days, the fact that only a small percentage of people in the world is as yet included in the ranks of motorists indicates that there is still a large field to be tapped which will continue to bring forward a large and steady demand for automobiles. There is, of course, a class of motor enthusiasts to whom the very latest will always appeal, and, in a way, it is an excellent thing that such exist, for they act as an encouragement to motor car builders to continually strive to improve their pro-

ductions. From the point of view, however, of the person to whom economical motoring appeals, anything which leads to fewer radical departures spells cheaper motoring, and cheaper motoring, in its turn, means a large addition to the ranks of car owners and buyers who have hitherto held back simply on the score of expense.

Reverting again to the Buyers' Guide, a careful examination of this will show that while six-cylinder cars retain, generally speaking, the proportion they have enjoyed for some years, the four-cylinder type remains far and away the prime favourite. The principal departure of the year, as regards the more expensive type of vehicle, is an increase in cars fitted with eight-cylinder engines. For a long time the De Dion Company have been alone in their advocacy of this type of engine for motor car use; although their example has not as yet been followed by any British concern, one or two large American builders have taken up the eight-cylinder, a fact which is bound to have the effect of drawing greater attention to this type.

Coming to bodywork, one would have thought that the last word had been said in this direction. While, however, this may be so in respect to enclosed cars, which have for some time embodied every comfort and luxury, there is still room for improvement in cars of the touring or open type, and we are glad to note that greater attention is being paid to the protection of the passengers in bad weather and also to reducing the draughts that are experienced when the front glass screen and the cape-cart hood are in use.

These few rambling comments on the cars of 1915 by no means exhaust all the points to which attention might be drawn, and in which improvements have been effected. There is much that can be said anent electric lighting equipments, engine starters, springing systems, the improvement of brakes, and other matters to which we may allude on another occasion. For the moment, however, it will suffice to point out that the range of cars now on the market includes types suitable for all purses—from £100 to £1,000 and over, and that, whether it be the cheapest or the dearest in the list, it can, with proper treatment, and used for the purpose for which it is intended, be relied upon to give a good account of itself.

The Advance of the Light Car.

Probably the principal outstanding feature of our "Buyers' Guide" is the marked progress that is being made by what is now known as the light car, that is, a sturdily-built 2-seater fitted with a 4-cyl. engine of from 8 to 10 h.p. This type of vehicle has made wonderful strides during the past twelve months, and would appear to have almost swept away the wave of enthusiasm for the cycle-car—machines fitted with single or double cylinder engines and with various forms of "cheap" transmission systems, with which we were never very greatly enamoured.

There are now quite a number of well-built light cars on the market well within the range of a very large section of the public—cars that, when used in the way for which

they are intended, will give maximum reliability and durability. We are sorry, however, to note a slight tendency towards fitting such cars with four-seated bodies. This is a tendency which we trust will be discouraged to the utmost, as it is one that can only bring trouble in its train—trouble to the owner by reason of the increased running expenses, cost of upkeep, and reduced life of the car, and trouble to the manufacturer owing to the discredit it is likely to bring on his productions by reason of their giving less satisfaction due to their being called upon to perform greater tasks than those for which they were designed. Where a car is needed to carry four or more passengers—and it is a curious trait of motorists that they usually like to carry at least one more passenger than normally provided for—it needs not only more engine power than a two-seater, but to be generally of stronger construction, unless, indeed, the owner is prepared—which he generally is not—to reduce his speed according to his load and be content to travel at a much lower average than a two-seater.

To be successful, it must be realised that the light car is intended for a particular purpose. Used for that purpose, the vehicle can be relied upon to rise, with reasonable care and attention, to all that is asked of it. If that purpose is not adhered to, the owner will have no justification for complaint if he meets with trouble, and, hence, we again express the hope that, in their own interest, as well as for the success of the movement generally, makers of light cars will restrict their energies to two-seaters and resist to the utmost all attempts to use such chassis for four-seated vehicles.

The Work of McAdam, the Road Maker.

At a time when methods of road construction have become a matter of considerable importance, it is interesting to recall the results achieved by some of the early workers in this important field of civil engineering. No name in this connection is more familiar than that of McAdam, more usually, but incorrectly, written Macadam, and, as to-day (Thursday) is the seventy-eighth anniversary of the death of that great pioneer of the rational construction of roads, some reference to him and his life's work may be of interest.

John Loudon McAdam, to give him his full name, was born in Ayr, Scotland, on September 21st, 1756, his father being a landed proprietor and founder of the first bank in the town. He was educated at the parish school, and even at that time is said to have shown his inclination towards road construction by making a model of a road in the district. On the death of his father, the boy was sent to a relative in New York, where he received a business training. In 1783 he returned to Scotland, and for thirteen years was a member of the Commission of Peace and a Deputy-Lieutenant of the County. During the Napoleonic wars he raised a volunteer corps of artillery for the defence of the coast, and was commissioned as a major. During that period, as trustee of certain highways, he carried out experiments at his own expense, and, in the face of great opposition and

prejudice, succeeded in improving the roads under his jurisdiction. The Highland Rebellion of 1745 had given an impetus to road building in Scotland, though these roads were mainly for military purposes. In England, however, the condition of the roads can be imagined from an announcement in the newspapers in 1754 that "a flying coach, however incredible it may appear, will actually, barring accidents, arrive in London in four days and a half after leaving Manchester."

Between 1760 and 1780 more than 600 Turnpike Acts were passed, but the roads actually built under these authorities were constructed, as a rule, without system or technical knowledge. McAdam moved to Bristol in 1798, and engaged in business connected with the victualling of the Navy, but he spent much time in private travel about the kingdom in the investigation of roads and the various methods of construction and repair then in operation. By August, 1814, he had travelled a distance of about 30,000 miles, and had expended from his private purse over £5,000. He had, however, by this means gained experience that made him a recognised authority on road building and made his advice eagerly sought for by those having charge of roads, while his views were boldly expressed in print and before several Parliamentary Committees.

The first recorded application of his knowledge on a large scale followed his election as a trustee of the Bristol Turnpike Trust. He found the roads of that district in a very bad condition, and on January 16th, 1816, he was appointed surveyor to the Trust in direct charge of construction and repairs. The roads under his management aggregated to a length of 178 miles, and by June, 1817, he was able to report that none of those in his district were in bad condition; that the cost of the maintenance had largely decreased; that the income had advanced in proportion; that a floating debt of £1,400 had been paid off, and that the principal debt had been reduced by £730. Although he was the surveyor of the Bristol Trust, it is apparent that this work did not occupy his whole time, for, by 1819, he had been consulted by thirty-four different bodies of road commissioners, representing thirteen counties. In 1823,

he had reported to seventy sets of commissioners in twenty-eight counties, and of these, the roads in thirty-two trusts were being managed by McAdam and his sons according to the system he had devised, the work being done by men trained under him. To McAdam's credit, it must be stated that he received no compensation for this extra work other than his travelling expenses, and in the cases where the road trusts were very poor, he did not even receive his expenses.

The opposition to the McAdam system of road building was at first very formidable, the chief objection being that the ramming of the bed was regarded as unnatural and ineffective, and was damaging to the wheels of vehicles and to the feet of the horses, but the critics failed to remember that previous to the improvement of roads on the McAdam system, the average life of a coach-horse was only three years. The first stretch of macadamised road in London was put down by McAdam in 1817 in connection with the improvement of the approaches to the Blackfriars and Westminster Bridges. George IV took a strong personal interest in the improvement of London streets, and this fact probably induced McAdam to leave Bristol in 1823 and take up his residence within a few miles of the Metropolis. In the same year he succeeded in getting an inquiry before the Committee of the House of Commons as to his system of road construction, and he had constructed a full set of road-making implements so that he could better explain the principles of his method. As a result, the merits of macadamised roads were admitted and acknowledged, and Parliament voted, first £2,000, and later raised this to £8,000 to compensate him for the money he had personally expended in bringing the system into practical and general use. Owing to his advanced years and relatively scanty means he declined a baronetcy; but in 1827 he was appointed Surveyor-General to the Commissioners of Metropolitan Turnpike Roads, and his system was adopted throughout the country. Later in his life, McAdam removed from the neighbourhood of London back to his native country, where he died on November 26th, 1836, he being buried in Moffat Churchyard.

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THE "AUTO." TYRE GUIDE.

It had been our intention to include in this issue a comprehensive and detailed list of all makes of tyres at present on the English market, but owing to the fact that certain particulars were not in our hands at the time of going to press we have decided to postpone the publication of this section until next week's issue. A

Guide of this description can only be entirely serviceable for purposes of reference when it covers the whole ground thoroughly. The various types of tyres, together with sizes and prices, supplemented with illustrations showing the treads favoured by the various manufacturers, will, it is hoped, meet the object we have in view.

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THE CAMERA AND THE CAR (See page 1319).

THE BRIDGE AT DEDHAM HILL.—A few yards along the same road is an iron bridge over the Stour which replaced an old oak bridge of the same style as that forming such a pretty Kodak camera study in the view on p. 1319. The iron bridge was erected at considerable expense (and to the great disgust of an artistic neighbourhood) on the grounds that it was more appropriate to the requirements of modern traffic, which still has to pass over the little wooden bridge above.



WITH THE CAMERA AND THE CAR.—The bridge at Dedham. (See page 1318.)

Fodak Study.

DETACHABLE MUDGUARDS.

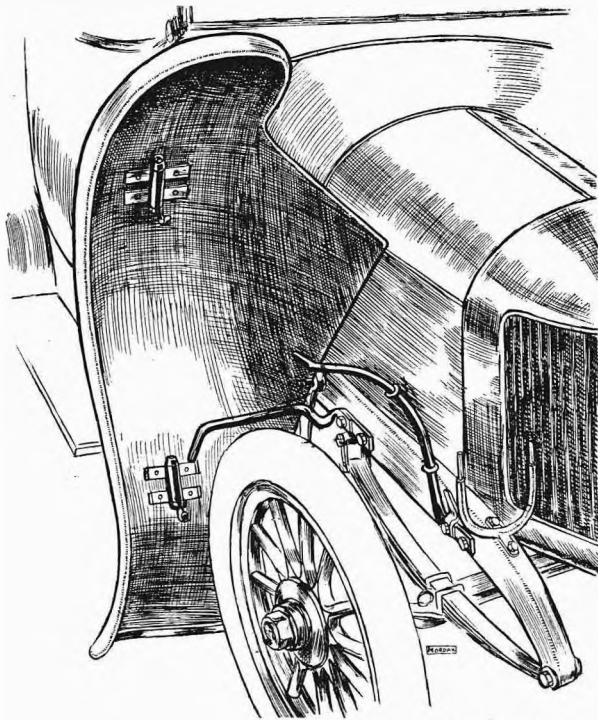
THERE is scarcely any need to call the attention of the practical man to the advantages of having on a car mudguards that are readily removed and replaced.

Often when grinding in valves, making some adjustment or other to the engine, changing a tyre, or, more often still, when washing down the car, the work would be rendered much easier if the mudguards could be taken off. It may be argued that these matters affect the chauffeur more than the actual owner of the car, but nowadays the number of owners who are also, to some extent at least, their own mechanics represent a very large proportion of motorists. Moreover, there are other reasons affecting the owner purely as such for considering such a fitting as a real boon. One of these is the question of garage space; without the wings a car is not

all the advantages enumerated. Without the use of other tools than the fingers all four mudguards could be detached by one person without previous practice in thirty seconds or less, and be replaced once again in very little more time. Moreover, the rigidity of the guards when fitted was such that they were superior in this respect to the usual fixed guard, indeed they were so rigid as to appear to form a unit with the rest of the chassis, no looseness or shake whatever being perceptible, in spite of the fact that the car to which they were fitted was used for demonstration purposes on the road and had run some thousands of miles.

Each wing of this car was fitted with two of the cylindrical "holders" shown in our sketches, known as "Mordax Holders," which engage with the wing brackets. These consist essentially of two parts, an inner and an outer tube, the latter carrying four flange plates which are rigidly attached to the guard by means of rivets. In the coned end of the inner tube are six conical holes, each containing a phosphor-bronze ball, the holes being of such size as to allow a segment of the ball to protrude on the inner face of the tube but not allow the ball to pass through. The outer tube is similarly coned at one end, and as the inclined face of the inner presses against that of the outer tube the balls are forced down against the bracket arm passing through the centre of the holder, and which is, of course, attached to a side member of the chassis frame. A light spring, also of phosphor-bronze, keeps the inclined faces in contact, and a trigger is provided by which to compress the spring and allow the grip to be released.

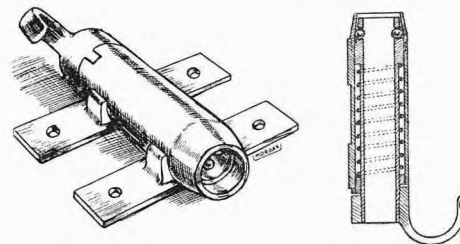
These holders are set longitudinally with the guards, as are the brackets in relation to the chassis frame, consequently the latter do not extend over or beyond the



"Auto." (Yellow Cover) Copyright.

Sketch showing the Mordax system of attaching mudguards, enabling these to be removed from or replaced on the brackets in a few seconds.

so wide and possibly not so long as with them; secondly, the risk of damaging the wings when entering or leaving the garage is eliminated. Another desirable point about such fittings is that two or more sets of wings can be provided, and these may be of different types suitable for different seasonal conditions, while in case of damage to one set from accidents in traffic driving the extra set may be substituted while the first is undergoing repair. Such repair, even when a second set of wings is not available, will probably be quite a short job owing to the ease with which the guard may be removed, and half an hour or so ought to see any but the very worst of damage made good. In fact, no end to the advantages of such a system will occur to every motorist, and the wonder is therefore that so far the idea of incorporating such a convenience on a car has received but little attention. A practical demonstration has recently been given of a system designed expressly to afford



"Auto." (Yellow Cover) Copyright.

The Mordax holder, showing the construction in detail and the general appearance.

centre of the tyres. A couple of ordinary turn-buttons secure the inner ends of the wings to the front and rear faces of the running boards.

Such a system as this for the back wheels would appear to give great facilities to coachbuilders, as the designer would be able to ignore intricacies relating to the efficient closing in of the rear wheels, the guards, in fact, being built to the lines of the coachwork subsequently, instead of *vice versa*.

Also, it should find good scope on armoured cars, enabling, as it would, the armour from the wheels to be detached within a minimum time in case of repairs to tyres being necessary. The manufacturers of the holders are Messrs. Hurlin and Co., Ltd., of 295, Mare Street, Hackney, N.E., who are willing to demonstrate the merits of the device to any interested motorist, and also to convert existing guards to those embodying the system at little cost.

QUESTIONS AND ANSWERS.

THIS section of the AUTO. is devoted to the consideration of mechanical and technical problems connected with the motor car; and we invite owner-drivers, students, and others to submit questions to us for investigation and solution, should they be unable to answer them with any degree of satisfaction.

A selected number of questions from those received will appear each week, with replies thereto, and our readers, for the benefit of their fellow motorists, are invited to offer their opinions on the questions submitted, or to criticise the answers given. These communications will be heartily welcomed, and such as are suitable for publication will be inserted. When referring to previous questions or answers, reference should always be made by the number of the question.

Questions arriving at this Office on Monday morning will, where possible, be replied to in our issue published on the following Thursday.

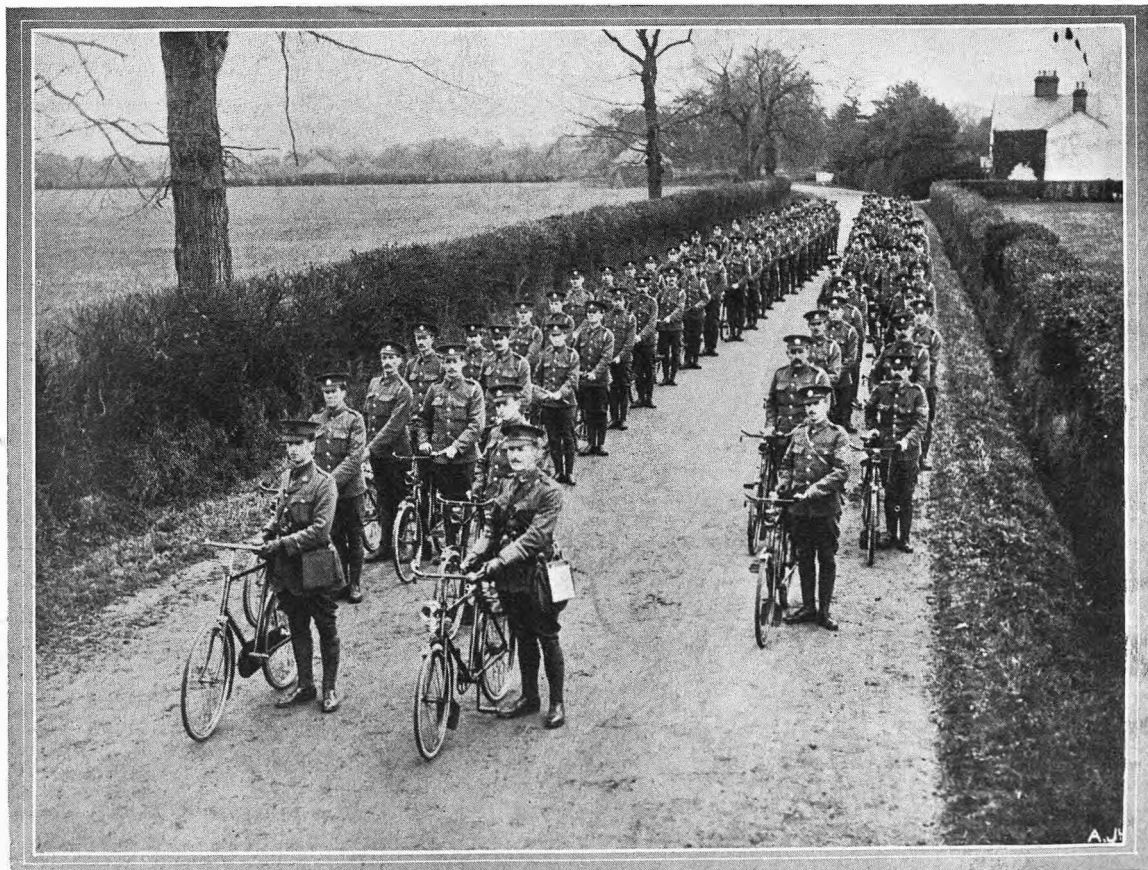
Correspondents are requested to write distinctly, on one side of the paper only, and should forward their names and addresses, which will not be published except by request.

100. Question.—High-Speed Engines. A great deal has been written concerning the excellence of the high-speed engine, but one hears little as to the relative wearing qualities and durability of the high-speed compared with the low-speed engine. It seems to me that the latter must always be the superior in these respects, and I should be glad to have your opinion on the matter.—S. V. J.

Answer.—There are no data available upon which it is possible to base any opinion upon the question you raise. But it must not be forgotten that the high-speed engine has been rendered a commercial proposition, and is doing so well, because of the vast improvement which has been made in the design of the various parts and in the materials employed in their construction. Hence, although engines are now often run at higher piston speeds than formerly, there has been no sacrifice in durability, but rather the reverse, as there is less trouble experienced

through wear, and engines are much more reliable than a few years ago. On the broad question, however, as to which engine will require overhauling and adjustment or repair first there can be, of course, no difference of opinion—given the same standard of excellence in design, equally suitable materials and careful driving on both, the high-speed engine will wear out sooner than a low-speed engine. This is, however, not the question, we presume, you propound in your letter.

101. Question.—Valve Caps Seized. A few weeks ago I left my car at a garage to have the valves ground in, but when I returned the job was not finished, and the operation of unscrewing one of the valve caps made my heart ache. The man told me that he had had some difficulty in getting the others out; but surely it should be unnecessary to hit the end of a spanner with a hammer? I thought that the man would smash the cylinder at every blow.—W. N. F.



Capt. Stenson Cooke and his band of Automobile Association scouts who enlisted for the war. The detachment, which is attached to the 8th Cyclist Battalion, Essex Regiment, are at present undergoing the necessary training at Colchester, near where they are seen in our photograph, lined up prior to starting their morning's work.

CORRESPONDENCE.

London's Darkened Streets.

SIR,—I think that Mr. Greaves' proposal that better street lighting should be permitted in certain districts in the London area is excellent, as the centre of the circle, or other figure, of increased illumination could be varied from time to time, and thus tend to confuse the pilots of enemy aircraft as to the location of prominent buildings.

The greater intensity of illumination in certain parts would also have the effect of rendering the lighting of other parts still more indistinct from above, and thus would assist the authorities in their attempts to provide greater protection for London, while at the same time affording safer transit to vehicular traffic in those districts where more extensive lighting is permitted. It is undoubtedly a fact that driving in some semi-suburban districts requires at the present time extreme care—much more than in London itself, where the traffic moves in more or less well-regulated streams.

Hampstead, N.W.

H. M. KENDRIK.

Capital for British Firms.

SIR,—The subject of "A Manufacturer's" letter—the dearth of capital—in your issue for the 12th inst., is a common cause of the failure of the British manufacturer to take full advantages of his opportunities; and at the present time the financial situation is still more strained, because of the amount of private capital which is locked up in shares that can only be liquidated at a considerable sacrifice to the owner. If we are to do anything to capture Germany's trade in practically any direction, this question will have to be closely examined, and for the reasons which I have mentioned, it seems probable that the Government, as your correspondent suggests, will have to advance sufficient money to reputable firms to enable them to extend their plant and premises.

This has been our trouble in the past, and it is where Germany has scored. German banks are not so keen on getting such good security for any money advanced; consequently, although they may in some rare cases lose, the nett result of their operations provides an adequate return; and ultimately the prosperity of the firm and the extensive hold which the German manufacturer gets upon the market is a continual source of revenue to the banks.

Financiers should realise that they are not asked to consider any wild cat scheme, but to support, in a patriotic manner, an industry that will continue so long as the nation lasts. But they must do it now—the end of the war will be too late.

Birmingham.

E.B.D.

Inconsiderate Driving of Motor Vehicles.

SIR,—In his endeavour to find some contributory cause for the increase in the number of accidents recently, and to which the Commissioner of Police has drawn attention, Mr Douglas MacNeill casts an aspersion upon the ability of lady drivers of motor cars without seeking in any way to adduce proof in support of his contention. Mr. Douglas MacNeill should appreciate that an expression of opinion is not proof of fact, and I am prepared to produce two friends of mine who are quite as capable of dealing with a critical situation as is any male driver. Having regard to their numbers, and providing that the size of the car is not too great, nor the control mechanism too elaborate, I should say that the proportion of good lady drivers is in excess of that of the opposite sex, because a lady rarely ventures alone upon the road until she is quite confident of her abilities.

Is there not a possibility that many accidents are attributable to the absence of experienced police officers on active service, and the presence of comparatively newly joined members of the force in the streets?

November 23rd.

M. B. DE ROCHE.



The Cyclecar Club's rally of 1915 models on Sunday afternoon last at the Hut, Wisley, on the Portsmouth Road.— A general view of the gathering.

OUR "BUYERS' GUIDE."

THE TREND OF DEVELOPMENT FOR 1915.

IN one respect the 1915 models differ from those of previous years, in that, as we also state elsewhere, there is no outstanding departure from current practice in any of the models presented. This state of affairs is not remarkable since it is the natural outcome of the gradual progress which has been going on continually towards perfection, and marked changes in design are hardly to be expected at this stage of automobile development. Real progress has, however, been made during the past year, but such is largely, if not entirely, restricted to detail parts; and we may, therefore, regard the year 1915 as a detail improvement year, which is all the better for the private owner.

The tendency of British manufacturers to limit the range of models which has been noted in previous years is continued, although it is in part due to the effect of the war, but where any curtailment has been made, it has generally been at the upper end of the scale—the higher powers. Thus we find that the low and medium powered cars predominate, and this fact is accentuated by the absence of the big cars which form such a large proportion of those produced in Austria and Germany, and by the introduction of several new small cars. There are, however, relatively few new models introduced this year, as, rightly or wrongly, the present is not regarded as an auspicious time at which to place a new car upon the market; while, in addition, many firms who had such work in hand last July and August have had to place it on one side, owing to the immediate demand for cars for use in connection with the war. This delay, while in some respects to be regretted, is, however, bound to react beneficially upon the public, as the manufacturers will have another year in which to discover whether or not any weak points exist in their designs and consequently there should be an all-round improvement when they ultimately come into the hands of the private owner.

The admirable practice, which has developed in recent years, of quoting an inclusive price for the car complete, with all accessories and such equipment as is usually desired by an owner, is still continued, and it is not surprising to find that the custom meets with such favour. Nothing tends to give rise to irritation and to cause friction and dissatisfaction between manufacturer and purchaser as to discover that before full use can be made of the car, it is necessary to expend a considerable sum of money on various odd fittings and accessories which are in every way essential for the ordinary use of the car, and which, from the fact that they are seen upon the show chassis, subconsciously produces a lingering impression upon a prospective owner that they are or should be included in the purchase price. By listing the complete car at an inclusive figure, the man who contemplates making a purchase is immediately aware of his liabilities, and can the more readily make comparisons between car and car, since the fittings included in the price for the chassis only or the chassis with body differ with different makers, and the prospective purchaser is not prepared to go to the trouble of working out the exact costs on the spur of the moment.

Where electric lighting or starting apparatus is provided as standard practice, and self-starters are with few exceptions of the electrical type, this is generally, as was the case with many cars last year, included in the list price; but on some chassis, the lighting or the combined

equipment is optional, while on others a bracket and pulley or other attachment are added which allow the application of an electric lighting or starting system of the type most favoured by the eventual owner of a car to be readily fitted. As regards the latter, it is certainly an excellent practice for motor manufacturers to provide suitable positions for the reception of a dynamo or self-starter; but, in the opinion of some, it would be more advantageous if it could be arranged that one make of these accessories should always be applied to one make of chassis. So long as everything is running in perfect condition, it matters little what make of dynamo or self-starter is fitted, but eventually overhaul and repair become necessary. Given one make of these forms of accessory fitted to one make or type of car, and the average garage mechanic would become familiar with the details and peculiarities of the lighting and starting equipment at the same time as he gained experience with the construction of the chassis to which it is fitted.

The detail improvements that have been made in the engine and chassis in the course of the year may be difficult to find in many cases unless the person interested is thoroughly *au fait* with last year's construction; and the fact that improvements have been effected is likely to be still more obscured because the motor manufacturer does not now wait until show time comes round before modifying details that have been found wanting or susceptible of improvement in the past; he carries out the necessary alterations when the next batch of cars are placed in hand in the works. Many of these minor weaknesses, if they may be so termed, are discovered in course of road tests carried out by the firm; but the vast majority are suggested by the observations or complaints of private owners. For example, if a manufacturer finds that three or four of his customers are unable to perform an operation with the ease that is desirable, or if trouble with the same fitting is reported from several owners, he is tolerably certain that the personal element has nothing whatever to do with the matter, and that there must be some defect in the design; and he immediately sets to work to eliminate the cause of the trouble.

The principal improvements which have been made are, as we have remarked, obscure. The results of the large amount of attention that has been paid to the suspension, for example, would escape notice; but the leaves of the springs in many instances have been lengthened and widened and made more numerous with the object of increasing the comfort of the occupant of the car.

The pins of the spring shackles on some models are larger in diameter and the shackles have been bushed, so as to give greater durability and eliminate squeaking noises from those parts. Brakes have been made more powerful and, what is more important, much smoother in action by increasing the diameter of the brake drums; while on several cars, the details of the transmission, such as the universal joints and the thrust bearings in the rear axle casing, have undergone revision involving partial redesign. In these and many other ways, such as the selection of more convenient positions for little fittings that need attention occasionally, considerable advance has been made, which is likely to enhance the reputation of the individual makers through the increased satisfaction which his productions give to their fortunate owners.

THE "AUTO. BUYERS' GUIDE" FOR 1915 CARS. (See page 1335 for Abbreviation references.)

h.p. and Name of Car.	Country of Origin.	PRICE.			ENGINE.					TRANSMISSION.				DIMENSIONS.											
		Chassis with Tyres.	Car.	Seats.	Equipment included with Car.	Cyls.	Cast.	Bore and Stroke.	R.A.C.	Tax.	Crank-shaft Bearings.	Lubrication.	Cooling.	Carburetor.	Ignition.	Clutch.	Speeds.	Final Drive.	Wheels.	Tyres.	Wheel-base.	Track.			
16-20 Aberdeen	E	400	—	—	E, W, T	4	B	3 1/2" x 5"	19.8	5	F	TS	Zenith	MV	MD	3	B	A, W, D	820 x 120	10	6	4	8		
10 A.C.	E	156	175	2	"	4	B	59 x 100	8.7	2	P	TS	Zenith	MF	D	3	W	Sankey, D	700 x 80	8	5	3	10		
12 "	E	178	200	2d.	"	4	"	65 x 100	10.4	2	"	"	"	"	"	"	"	"	"	700 x 85	8	5	3	10	
12 "	S	—	—	4	E	4	B	79 x 127	8.7	3	F	P	O, W	MV	SD	3	W	A, W, F	700 x 85	8	5	3	10		
*15 Albion	S	392	498	8	"	4	"	"	15.8	4	"	"	"	"	"	"	"	"	Front.	880 x 120	9	0	4	11	
15 "	"	398	509	10	"	4	"	"	"	3	"	"	"	"	"	"	"	"	Rear, solid	"	9	0	4	11	
15 "	"	392	544	8	"	4	"	"	"	3	"	"	"	"	"	"	"	"	"	700 x 80	8	1	4	0	
15 "	"	398	555	10	E, W, T, D, Ss.	4	B	59 x 100	8.7	3	F	TS	"	MV	LC	3	W	AS or W, D	810 x 90	9	0	4	6		
8-10 Alldays	E	—	—	2	"	4	P	76 x 120	14.4	3	"	"	"	"	AS or W, D	"	"	"	"	815 x 105	10	0	4	6	
12-14 "	"	—	350	4	"	4	B	60 x 95	8.9	3	"	TS	Zenith	M	LC	3	B	A, W, D	700 x 80	7	0	6	8		
16-20 "	"	—	400	5	E, W, T	4	B	"	"	—	"	"	"	"	"	"	"	"	"	"	7	0	6	8	
10 Arden	E	136	160	—	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	8	0	3	8	
10 "	"	149	173	—	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	8	0	3	10	
*14 Argyll	S	153	185	—	"	4	B	67 x 95	11.1	3	F	"	Zenith	MV	Plate	3	W	A, W, D	810 x 90	9	0	6	3		
14 "	"	310	335	2	"	4	B	75 x 120	13.9	4	"	"	"	"	"	"	"	"	"	"	9	0	6	3	
15-30 "	"	310	350	4	"	4	P	80 x 130	15.8	4	"	"	"	"	"	"	"	"	"	"	9	10	4	5	
15-30 "	"	360	425	2	"	4	"	"	"	4	"	"	"	"	"	"	"	"	"	"	8	15	10	5	
25-50 "	"	375	575	6	"	4	"	100 x 130	25.8	6	"	"	"	"	"	"	"	"	"	"	8	20	10	8	
25-50 "	"	395	475	5	"	4	"	76 x 110	14.3	3	F	TS	Solex	MF	LC	4	"	"	"	880 x 120	10	6	4	8	
25-50 "	"	410	625	6	"	4	P	80 x 150	15.8	4	"	"	"	"	"	"	"	"	"	"	8	15	10	8	
12 Ariel	E	255	280	2	3 lamps, horn	4	P	100 x 130	24.8	6	"	"	W & P	MV	"	"	"	"	"	"	815 x 105	10	3	4	0
25 "	"	350	375	2	"	4	P	"	"	—	"	"	"	"	"	"	"	"	"	"	880 x 120	9	8	4	0
25 "	"	450	475	2	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	11	0	4	6	
11 Armstrong	E	450	475	2	E, W, T	4	B	69 x 90	11.9	3	F	TS	Zenith	MF	LC	4	W	A, S, D	750 x 85	8	6	4	4		
15-20 Armstrong-W.	E	375	—	—	"	4	"	80 x 135	15.9	4	"	"	Zenith	MV	MD	4	W	W, D	815 x 105	9	8	4	4		
15-20 (Col.)	"	375	—	—	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	9	8	4	8	
17-25 "	"	435	—	—	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	9	8	4	8	
17-25 (Col.)	"	435	—	—	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	9	8	4	8	
20-30 "	"	500	—	—	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	9	8	4	8	
30-50 "	"	850	—	—	"	6	"	"	"	—	"	"	"	"	"	"	"	"	"	"	8	20	10	8	
15.9 Arrol-Johnson	S	265	310	2d.	D, Ss*	4	P	90 x 150	30.1	8	"	"	"	"	"	"	"	"	"	"	820 x 120	10	6	4	8
15.9 "	"	265	310	4	E, W, T, D	4	"	80 x 120	15.9	4	A	TS	Zenith	MF	Plate	4	B	A, W, D	895 x 135	11	9	4	8		
17.9 "	"	325	365	2d.	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	760 x 90	9	4	4	7
17.9 "	"	325	375	5	E, W, T, D, Ss	4	"	85 x 120	17.9	6	"	"	"	"	"	"	"	"	"	"	815 x 105	9	9	4	7
20.9 "	"	375	450	5	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	820 x 120	10	3	4	8
9 Ascot	E	175	195	2	E, R	4	B	91 x 140	20.9	6	"	"	MV	"	"	"	"	"	"	"	820 x 120	10	3	4	8
10 Austin	E	260	300	4	E, S, W, T	4	S	60 x 100	8.9	3	F	TS	Zenith	MV	LC	3	B	W, DR	700 x 80	7	0	6	10		
20 "	"	375	535	4	"	4	"	76 x 89	14.3	4	"	"	"	"	FC	4	B	A, W, D	760 x 90	9	3	4	0		
20 "	"	400	575	5	"	4	"	95 x 127	22.4	6	"	"	"	"	"	"	"	"	"	815 x 105	9	10	4	6	
30 "	"	575	750	5	"	4	"	"	"	—	"	"	"	"	"	"	"	"	"	"	10	6	4	6	
30 "	"	575	—	—	"	4	"	111 x 152	30.6	8	"	"	"	"	"	"	"	"	"	"	895 x 135	10	9	4	7
*10-12 Autocrat	E	157 1/2	194 1/2	2	E, W, T	4	B	60 x 100	8.9	3	A	TS	Solex	MF	MD	3	B	A, S, D	700 x 80	8	6	4	0		
10-12 "	"	157 1/2	220 1/2	4	"	4	"	"	"	3	"	"	"	"	"	"	"	"	"	"	8	6	4	0	
10 Avertis	"	—	165	2	E	4	B	59 x 100	8.9	3	"	TS	Claudel	MF	LC	3	"	Wire, F	650 x 65	7	10	3	9		
15-20 Baguley	E	—	395	5	E, Ss, D, R, T	4	B	80 x 130	15.9	4	F	P	Zenith	MV	MD	4	B	A, W, DR	815 x 105	10	0	4	6		
15-20 "	E	—	395	5	"	4	B	80 x 150	8.9	3	"	TS	Solex	MF	FC	3	B	Wire, F	650	7	11	3	9 1/2		
*8 Bayard	F	—	180	2	"	4	B	60 x 100	8.9	3	"	TS	Solex	MF	LC	3	"	Sankey, D	750 x 80	8	1	3	11		
9 "	"	—	240	2	"	4	"	60 x 120	"	3	"	"	"	"	"	"	"	"	"	"	8	1	3		

Model	Price	Body	Engines	Transmission	Chassis	Weight	Speed	Range	Capacity	Notes
9 Bayard	245	...	...	...	...	...	...	...	...	...
10 "	250	...	...	...	...	...	...	...	...	...
11 "	305	...	...	...	...	...	...	...	...	...
12 "	310	...	...	...	...	...	...	...	...	...
14 "	275	...	...	...	...	...	...	...	...	...
15-18 Bedford-Buick	320	U	E, Ss, D, S, K	P	Marvel	Del	...	...	...	AW, DR
15-18 "	285	U	E, Ss, D, S, K	P	Marvel	Del	...	...	...	AS, D
*16 Bell	295	E	E, W	F	Own	MV	MD	...	...	AS, D
16 "	290	E	E, W	F	Own	MV	MD	...	...	AS, D
16 "	325	...	...	...	...	...	...	...	...	...
16 "	325	...	...	...	...	...	...	...	...	...
20 "	325	...	...	...	...	...	...	...	...	...
20 "	400	...	...	...	...	...	...	...	...	...
20 "	400	...	...	...	...	...	...	...	...	...
30 "	475	...	...	...	...	...	...	...	...	...
16 "	330	(Colonials)	...	...	...	...	...	...	...	...
20 "	330	...	...	...	...	...	...	...	...	...
20 "	405	...	...	...	...	...	...	...	...	...
10 Belsize	195	E	E, D, S, W, T	F	Zenith	MV	Metal C	...	...	AS, D
12 "	215	...	...	...	...	...	...	...	...	...
12 "	218	...	...	...	...	...	...	...	...	...
15'9 "	275	...	...	...	...	...	...	...	...	...
12 Berliet	275	F	...	F	Osh	MV	MD	...	...	AW
15 "	370	...	...	...	...	...	...	...	...	...
18 "	400	...	...	...	...	...	...	...	...	...
25 "	495	...	...	...	...	...	...	...	...	...
25 "	585	...	...	...	...	...	...	...	...	...
40 "	950	I	...	F	Zenith	MV	SP	...	...	AS, D
10-12 Bianchi	255	...	...	...	...	...	...	...	...	Wire, D
14-18 "	360	...	...	...	...	...	...	...	...	AS, D
20 "	470	...	...	...	...	...	...	...	...	...
25-40 "	575	...	...	...	...	...	...	...	...	...
10-12 Bozier	248	...	...	...	...	...	...	...	...	...
12-15 "	287	...	...	...	...	...	...	...	...	...
14-18 "	287	...	...	...	...	...	...	...	...	...
9 Brasier	246	F	E, D, K, T	A	L'incare	MF	LC	...	...	AW, DR
12 "	310	...	...	...	...	...	...	...	...	...
16 "	395	...	...	...	...	...	...	...	...	...
16 "	400	...	...	...	...	...	...	...	...	...
22 "	596	...	...	...	...	...	...	...	...	...
24 "	676	...	...	...	...	...	...	...	...	...
30 "	840	...	...	...	...	...	...	...	...	...
10-12 Briton	183	E	E, W, T	F	Zenith	MF	LC	...	...	AS, D
10-12 "	183	...	...	...	...	...	...	...	...	...
10-12 "	222	...	...	...	...	...	...	...	...	...
10-12 "	222	...	...	...	...	...	...	...	...	...
10-12 "	288	...	...	...	...	...	...	...	...	...
10 "	168	...	...	...	...	...	...	...	...	...
14-16 "	262	...	...	...	...	...	...	...	...	...
14-16 "	262	...	...	...	...	...	...	...	...	...
14-16 "	210	...	...	...	...	...	...	...	...	...
14-16 "	210	...	...	...	...	...	...	...	...	...
*13'9 B.S.A.	300	E	E, W, T, Ss, D, S	A	Daimler	MV	LC	...	...	Wire, D
13'9 "	300	...	...	...	...	...	...	...	...	...
8'9 Buchet	175	F	E	...	Zenith	M	LC	...	...	W, F
12-20 "	238	...	...	...	...	...	...	...	...	AW, F
12-20 "	250	...	...	...	...	...	...	...	...	...
15-18 Buick	200	U	E, D, Ss, R, S	A	Varvel	Del	LC	...	...	AW, DR
15-18 "	200	...	...	...	...	...	...	...	...	...
15-18 "	245	...	...	...	...	...	...	...	...	...

* ALBION: The first two models have shooting brake bodies, and the last two "country-house" bodies. ARGVLL: Sleeve valve engines to all models, prices for 15-30 and 25-50 six sealers include landaulette or limousine body. ARMSTRONG-WHITWORTH: Included in chassis price. AUTOCRAT: Dynamo set and electric starter, 25 gns. extra. BAYARD: Dynamo set, 8-volt, £20, 12-volt, £25 extra to all models. BELL: Four speed gearboxes to all models £12 10s. extra; chassis prices include spare wheel. The 16 h.p. model at £390 includes a small landaulette or "taxi" body. BERLIET: Included in chassis price. BIANCHI: Included in chassis price. BRITON: 10 h.p. price is approximate; dynamo set and self-starter included in chassis price of 10-12 and 14-16. B.S.A.: Knight engine.

h.p. and Name of Car.	Country of Origin.	PRICE.			ENGINE.							TRANSMISSION.				DIMENSIONS.								
		Chassis with Tyres.	Car.	Seats.	Equipment included with Car.	Cyls.	Cast.	Bore and Stroke.	R.A.C.	Tax.	Crank-shaft Bearings.	Lubrication.	Cooling.	Carburetor.	Ignition.	Clutch.	Speeds.	Final Drive.	Wheels.	Tyres.	Wheel-base.	Track.		
20-30 Cadillac	U	444	488	—	E, Ac, D, Ss, S	8	F	3 1/2" x 5 1/2"	31.4	8	3	F	P	Own	Del	MD	3	B	AW	895 x 135	12	4	8	
20-30 "	E	466	185	2	" E	4	B	65 x 110	10.5	3	3	P	TS	Zenith	MV	LC	3	"	AS, D	" 80	12	1	8	
10.5 Calcutt...	E	225	278 1/2	2	E, D, S, W, T	4	B	69 x 125	11.8	3	3	P	TS	Zenith	MV	MD	3	"	Wire, D	760 x 90	8	6	3	
12-15 Calthorpe	E	225	299 1/2	4	"	4	B	80 x 125	11.8	3	2	P	TS	"	"	"	"	"	"	"	815 x 105	8	6	4
12-15 "	Ir	300	383 1/2	5	E, D, S	4	P	80 x 150	15.9	4	5	F	TS	Own	Du	MM, ex	3	W	AS, D	760 x 90	8	6	4	
*11-15 Chambers	"	245	290	2	" E	4	B	79 x 101	6.15.6	4	3	F	TS	"	MV	"	3	"	"	815 x 105	8	3	4	
11-15 "	"	245	335	4	"	4	B	85.7 x 101	6.18.2	6	3	"	"	"	"	"	3	"	"	760 x 90	8	3	4	
12-16 "	"	285	390	5	"	4	B	88.8 x 127	19.8	6	3	"	"	"	"	"	3	"	"	815 x 105	9	6	4	
16-20 "	"	400	500	6	"	4	B	88.8 x 127	19.8	6	3	"	"	"	"	"	3	"	"	880 x 120	10	6	4	
36 Chanuller ...	U	360	400	5	E, D, Ss, S, R	6	B	86 x 127	27.4	8	2	A	TS	Stromb'g Claudel	M	MD	3	B	AW, DR	870 x 100	10	0	4	
8 Charronette	F	168	194 1/2	2	" E	4	B	58 x 100	8.3	3	2	A	TS	Zenith	MF	L'	3	B	AW, D	650 x 65	7	2	3	
10-12 Charron	"	225	280	2	"	4	B	60 x 110	8.9	3	2	P	"	"	"	"	3	"	W or AW	750 x 85	8	0	4	
10-12 "	"	225	288	4	"	4	B	60 x 110	8.9	3	2	P	"	"	"	"	3	"	"	"	8	0	4	
12-15 "	"	260	328	4	"	4	B	65 x 120	10.4	3	3	A	"	"	"	"	3	"	AW, F	815 x 105	8	6	4	
15-20 "	"	310	390	4	"	4	B	80 x 120	15.9	4	3	P	"	"	"	"	3	"	AW, F	820 x 120	10	8	4	
18-24 "	"	388	440	4	"	4	B	85 x 150	17.9	6	3	A	TS	Zenith	MV	LC	4	"	Wire	650 x 65	7	6	3	
8 Chaler-Lea	E	—	173 1/2	2	" E	4	B	85 x 85	8.4	3	2	A	TS	Zenith	MV	LC	3	W	"	700 x 80	7	6	3	
10 "	"	—	173 1/2	2	"	4	B	80 x 130	15.9	4	3	F	TS	Zenith	MV	LC	4	W	AS, D	815 x 105	9	8	4	
15.9 Cheswold	E	340	440	5	E, W, T	4	B	80 x 130	15.9	4	3	F	TS	Zenith	MV	LC	4	W	AS, D	815 x 105	10	8	4	
15.9 "	"	—	500	5	"	4	B	65 x 96	10.4	3	3	"	TS	Zenith	M	LC	3	"	W, DR	700 x 85	7	10	4	
10 C.I.D.	"	—	185	5	"	4	B	75 x 110	—	4	—	"	"	Zenith	"	LC	4	W	AW, D	760 x 90	9	0	4	
*12-16 Clament	E	290	380	5	Hood and screen	4	—	90 x 120	—	6	—	"	"	Zenith	"	LC	4	B	"	815 x 105	10	0	4	
*16-20 "	"	350	465	5	"	4	—	107 x 130	—	8	—	"	"	"	"	"	4	"	"	880 x 120	10	6	4	
*25-30 "	"	475	600	5	"	4	—	115 x 140	—	8	—	"	"	"	"	"	4	"	"	"	10	9	4	
*30-35 "	"	500	635	5	"	4	—	60 x 100	7.5	3	2	P	P	Zenith	MV	M to M	3	"	AS, D	760 x 90	7	3	4	
*10 Clyde	E	158	195	3	E, W, T, S	4	P	80 x 100	15.9	4	3	"	"	W & P	"	"	3	"	AS, D	765 x 105	8	4	4	
*16 "	"	240	285	5	"	4	P	80 x 100	15.9	4	3	"	"	Zenith	"	"	4	"	AW, F	815 x 105	9	11	4	
16-20 Cortin-Des-	F	390	—	—	"	4	—	80 x 160	15.9	4	4	"	"	Zenith	"	MD	4	"	AW, F	"	10	1	4	
16-20 " [routes]	"	390	—	—	"	4	—	"	—	4	4	"	"	"	"	"	4	"	"	"	—	—	4	
16-20 " (sport)	"	410	—	—	"	4	—	"	—	4	4	"	"	"	"	"	4	"	"	"	—	—	4	
20-30 "	"	510	—	—	"	4	—	100 x 160	24.8	6	—	"	"	"	"	"	4	"	"	"	—	—	4	
20-30 "	"	510	—	—	"	4	—	"	—	6	—	"	"	"	"	"	4	"	"	"	—	—	4	
20-30 "	"	510	—	—	"	4	—	"	—	6	—	"	"	"	"	"	4	"	"	"	—	—	4	
20-30 "	"	530	—	—	"	4	—	120 x 160	35.7	10	—	"	"	"	"	"	4	"	"	"	—	—	4	
40 "	"	650	—	—	"	4	—	130 x 200	41.9	20	—	"	"	"	"	"	4	"	"	"	—	—	4	
60 "	"	810	—	—	"	4	—	60 x 110	8.9	3	2	F	TS	Zenith	MF	"	4	"	AS, D	700 x 80	10	0	4	
*10 Cowey	E	—	300	3	E, W, T	4	B	60 x 110	8.9	3	2	F	TS	Zenith	"	"	4	"	"	"	—	—	4	
15 Crossley	E	350	—	—	"	4	—	80 x 120	15.9	4	—	"	"	Smith	MV	LC	4	"	W, D, or AS, D	815 x 105	9	7	4	
15 "	"	370	—	—	"	4	—	80 x 130	—	4	—	"	"	"	"	"	4	"	"	820 x 120	10	4	4	
15 C-Shelsley	"	355	—	—	"	4	—	80 x 130	—	4	—	"	"	"	"	"	4	"	"	815 x 105	9	7	4	
15 C-Shelsley	"	375	—	—	"	4	—	"	—	4	—	"	"	"	"	"	4	"	"	820 x 120	10	4	4	
15 " (sport)	"	375	—	—	"	4	—	"	—	4	—	"	"	"	"	"	4	"	"	815 x 105	9	7	4	
15 " (sport)	"	395	—	—	"	4	—	"	—	4	—	"	"	"	"	"	4	"	"	820 x 120	10	4	4	
20-25 Crossley	"	475	—	—	"	4	—	102 x 140	15.8	6	—	"	"	"	"	"	4	"	"	880 x 120	10	6	4	
20-25 "	"	500	—	—	"	4	—	"	—	6	—	"	"	"	"	"	4	"	"	895 x 135	11	3	4	
20 Daimler	E	473	619 1/2	5	D, Ss, S, W	4	P	90 x 130	20.1	6	5	P	P	Own	MV	LC	4	W	W, D	815 x 105	10	11	4	
30 "	"	656	—	—	"	4	"	110 x 130	30	8	5	"	"	Du	"	"	4	"	"	895 x 135	11	9	4	
30 "	"	724	903	5	"	6	"	90 x 130	30.1	8	7	"	"	"	"	"	4	"	"	"	11	9	4	
45 " (special)	"	1050	1312 1/2	7	"	6	"	110 x 130	45	20	7	"	"	"	"	"	4	"	"	"	11	9	4	
*12 Darracq	F	240	310	4	E, D	4	B	75 x 120	13.9	4	3	P	P	Zenith	MV	LC	4	B	AW, D	760 x 90	12	2	4	

Model	Price	Engines	Transmission	Driveshaft	Clutch	Brakes	Wheels	Weight	Capacity	Notes
*12 Darracq	240	295	3	3	3	3	3	3	3	
*16	295	360	4	4	4	4	4	4	4	
*16	305	375	5	5	5	5	5	5	5	
*20-36	425	500	5	5	5	5	5	5	5	
10 Day-Leeds	E	175	2	2	2	2	2	2	2	E, W, T
10	185	190	2	2	2	2	2	2	2	
10	190	190	2	2	2	2	2	2	2	
*8-10 De Dion-Bouton	F	221	2	2	2	2	2	2	2	E, W, T, D Hood and screen
*8-10	221	310	4	4	4	4	4	4	4	
*12	275	372	2	2	2	2	2	2	2	
*12	275	390	2	2	2	2	2	2	2	
*14	311	408	2	2	2	2	2	2	2	
*14	311	426	4	4	4	4	4	4	4	
14	323	437	4	4	4	4	4	4	4	
18	373	517	4	4	4	4	4	4	4	
18	424	595	5	5	5	5	5	5	5	
24	502	650	5	5	5	5	5	5	5	
25	469	616	5	5	5	5	5	5	5	
30	573	—	—	—	—	—	—	—	—	
50	733	—	—	—	—	—	—	—	—	
*10 Deensier	E	175	2	2	2	2	2	2	2	E, W, T
12 Delage	F	235	3	3	3	3	3	3	3	E, W, T
14	290	335	4	4	4	4	4	4	4	
14	305	410	5	5	5	5	5	5	5	
15-9	350	415	5	5	5	5	5	5	5	
15-9	360	465	5	5	5	5	5	5	5	
*10-12 Delahaye	F	240	3	3	3	3	3	3	3	D
12-16	276	375	5	5	5	5	5	5	5	
14-18	312	400	5	5	5	5	5	5	5	
16-20	400	500	5	5	5	5	5	5	5	
20-30	472	575	5	5	5	5	5	5	5	
17 Delaunay-Belle-	F	440	—	—	—	—	—	—	—	
20	560	—	—	—	—	—	—	—	—	[ville]
25	600	—	—	—	—	—	—	—	—	
26	600	—	—	—	—	—	—	—	—	
30	700	—	—	—	—	—	—	—	—	
35	740	—	—	—	—	—	—	—	—	
45-50	900	—	—	—	—	—	—	—	—	
20 Dennis	E	390	6	6	6	6	6	6	6	E, D, S, R, Ss
24	450	670	6	6	6	6	6	6	6	E, R
16-20 Detroit	U	235	5	5	5	5	5	5	5	
10-12 D.F.P.	F	235	2	2	2	2	2	2	2	
12-15	390	340	2	2	2	2	2	2	2	
12-15	390	385	4	4	4	4	4	4	4	
16-22	350	—	—	—	—	—	—	—	—	
*11-9 D.L.	S	105	2	2	2	2	2	2	2	L, W
11-9	167	195	4	4	4	4	4	4	4	
10 Enfield	E	175	2	2	2	2	2	2	2	E, W, T, D
14-3	350	—	—	—	—	—	—	—	—	E, W, T, D, Ss
18-4	425	—	—	—	—	—	—	—	—	
24-9	485	—	—	—	—	—	—	—	—	
15 Ensign	E	320	5	5	5	5	5	5	5	E, D, Ss
20	395	—	—	—	—	—	—	—	—	
*14-18 Excelsior	B	350	4	4	4	4	4	4	4	L, H, W
20-30	435	—	—	—	—	—	—	—	—	

* CHAMBERS: 11-15 and 12-16 have 3-speed and R epicyclic gear, the 16-20 has a 4-speed gearbox with sliding gears, and the price given is approximate only. DAIMLER: All models have Knight engines. DELAHAYE: Detachable wire wheels to all models £20 extra. Chassis prices do not include tyres. D.L.: Prices include free insurance for first year. ENFIELD: Option of wire, steel or wood detachable wheels. EXCELSIOR: 14-18 with 5-seater body £425; 20-30 h.p. has two carburetors.

h.p. and Name of Car.	Country of Origin.	PRICE.			ENGINE.										TRANSMISSION.				DIMENSIONS.				
		Chassis with Tyres.	Car.	Seats.	Equipment included with Car.	Cyls.	Cast.	Bore and Stroke.	R.A.C.	Tax.	Crank-shaft Bearings.	Lubrication.	Cooling.	Carburetor.	Ignition.	Clutch.	Speeds.	Final Drive.	Wheels.	Tyres.	Wheel-base.	Track.	
12-15 Fiat	I	295	375	4	E, W, T	4	B	70x120	12.1	4	3	F	P	Own	MF	D	4	B	AW, DR or AS, D	760x90	8	3	11 1/2
15-20 "	"	365	525	4 or 5	"	4	"	80x140	15.8	4	3	"	"	"	MV	"	4	"	"	815x105	9	4	7
20-30 "	"	515	715	4 or 5	"	4	"	100x140	24.8	6	3	"	"	"	"	"	4	"	"	880x120	10	4	7
20-30 "	"	525	725	4	"	4	"	110x150	30	8	3	"	"	"	"	"	4	"	"	820x120	10	4	6 3/4
35 "	"	650	850	5 or 7	"	4	"	130x170	42	8	3	"	"	"	"	"	4	"	"	880x120	10	4	7
35 "	"	800	1050	5 or 7	"	4	"	80x100	15.9	20	3	"	"	"	"	"	4	"	"	"	10	11	7
50-60 "	"	300	375	5	"	4	"	60x110	8.9	6	3	"	"	"	"	"	4	"	"	810x90	10	8	4
12-16 F.L.	F	450	550	2 & D	E, W, T	6	B	80x100	23.8	3	3	"	"	"	"	"	4	"	"	880x120	10	6	4
18-24 "	"	210	250	2 & D	"	4	"	60x110	8.9	3	3	"	"	"	"	"	4	"	"	760x90	10	6	3
8-10 F.N.	B	325	425	6	"	4	"	69x130	11.9	6	3	"	"	"	"	"	4	"	"	815x105	9	9	4
12-14 "	"	395	525	6	"	4	"	85x120	17.9	6	3	"	"	"	"	"	4	"	"	840x120	10	3	4
18 "	"	395	525	6	"	4	"	3 3/8" x 4"	22.4	6	3	"	"	"	"	"	4	"	"	815x105	10	3	4
*20 Ford	U	105	125	5	E	4	B	3 3/8" x 5"	14.3	4	4	"	"	"	"	"	4	"	"	30" x 3 3/8"	8	4	8
*14 Foy-Steele	E	235	265	2	"	4	B	3" x 5"	14.3	4	4	"	"	"	"	"	4	"	"	800x85	9	2 1/2	2
14 "	"	256	315	4	"	4	"	"	"	4	4	"	"	"	"	"	4	"	"	810x90	9	2 1/2	2
14 "	"	250	280	2	"	4	"	"	"	4	4	"	"	"	"	"	4	"	"	815x105	9	2 1/2	2
14 "	"	271	330	4	"	4	"	"	"	4	4	"	"	"	"	"	4	"	"	700x85	8	6	4
*10-12 Frenay	B	220	275	3	E, D, W, T	4	B	65x120	10.5	3	2	"	"	"	"	"	4	"	"	760x90	9	3	4
12-14 Gladiator	F	285	—	—	—	4	"	70x110	12.1	4	—	—	—	Zenith	M	LC	4	B	Wire, D*	760x90	9	3	4
15-9 "	"	300	—	—	—	4	"	80x110	15.9	4	—	—	—	"	"	"	4	"	DR	765x105	—	—	1
15-20 "	"	350	—	—	—	4	"	80x130	25.3	4	—	—	—	"	"	"	4	"	Wire, D	815x105	9	11	4
25-35 "	"	525	—	—	—	4	"	101x150	25.3	8	—	—	—	Own	"	"	4	"	"	895x135	11	0	4
*15-20 Gobron	F	395	—	—	—	4	"	75x150	8	8	—	—	—	"	"	"	4	"	"	815x105	9	5	4
15-20 "	"	395	—	—	—	4	"	"	8	8	—	—	—	"	"	"	4	"	"	"	10	3 1/2	4
16-20 "	"	450	—	—	—	4	"	80x160	10	10	—	—	—	"	"	"	4	"	"	820x120	10	5	4
20-30 "	"	560	—	—	—	4	"	90x180	10	10	—	—	—	"	"	"	4	"	"	880x120	10	5	4
22-40 "	"	650	—	—	—	4	"	90x200	10	10	—	—	—	"	"	"	4	"	"	"	10	5	4
40-50 "	"	960	—	—	—	4	"	110x250	20	20	—	—	—	"	"	"	4	"	"	"	10	5	4
40-50 "	"	960	—	—	—	4	"	"	20	20	—	—	—	"	"	"	4	"	"	935x135	10	5	4
9 Gordon	E	115	135	2	E	2	S	85x96	8	3	2	A	TS	Own	MF	"	3	"	"	700x80	11	9	5
10 "	"	165	200	4	E, D	4	B	64x85	10.4	3	2	"	"	Zenith	M	LC	3	B	"	760x90	7	6	3
12 Gregoire	"	230	—	—	—	4	"	65x130	10.4	3	—	—	—	"	"	"	4	"	"	810x90	10	4	4
20 "	"	295	—	—	—	4	"	70x140	12.1	4	—	—	—	"	"	"	4	"	"	"	9	3	4
20 " (Sport)	"	340	—	—	—	4	"	80x110	15.9	4	—	—	—	"	"	"	4	"	"	"	9	3	4
14-16 "	"	245	—	—	—	4	"	80x130	15.9	4	—	—	—	"	"	"	4	"	"	"	10	5	4
16-24 "	"	315	—	—	—	4	"	80x160	22.4	4	—	—	—	"	"	"	4	"	"	875x105	10	5	4
8 G.W.K.	E	132 1/2	157 1/2	2	E	2	P	85.8x92	9.2	3	2	S	P	Solex	MV	"	4	"	"	650x65	7	7	3
8 "	"	178 1/2	178 1/2	4	E, D, Ss	2	"	"	3	2	2	"	"	"	"	"	4	"	"	700x80	7	7	3
8 " (de Luxe)	"	199 1/2	199 1/2	2	"	2	"	"	3	2	2	A	"	"	"	"	4	"	"	"	7	10	3
10 Hampton	E	170	185	2	E	4	B	60x110	8.9	3	2	F	TS	Zenith	MV	LC	3	B	AS, D	760x80	8	6	4
12-16 "	"	250	280	2	"	4	"	70x130	12.1	4	2	"	"	"	"	"	3	"	"	760x90	9	6	4
12-16 "	"	250	295	4	"	4	"	"	8.9	3	2	"	"	"	"	"	3	"	"	"	9	6	4
*9 Hillman	E	—	200	2	E, W, T	4	B	60x120	8.9	3	2	P	TS	—	MF	LC	3	W	"	700x85	7	8	4
15.0 Hispano-Suiza	Sp	425	550	4	Ac, W	4	B	80x180	15.9	4	3	F	P	Own	MV	D	3	B	AS, D	—	8	8	4
12-16 Hotchkiss	F	360	—	—	—	4	"	80x130	15.9	4	4	"	"	Zenith	M	LC	4	B	AW, F	815x105	9	10	4
18-22 "	"	480	—	—	—	4	"	95x140	22.4	6	—	—	—	"	"	"	4	"	"	880x120	10	10	4
20-30 "	"	600	—	—	—	4	"	110x150	30	8	—	—	—	"	"	"	4	"	"	895x135	11	11	4
25-35 "	"	645	—	—	—	6	"	95x130	33.5	10	—	—	—	"	"	"	4	"	"	"	11	11	4
10 Humber	E	220	255	2	E, W, T	4	B	65x120	10.5	3	3	P	TS	Smith	MV	LC	4	B	AS, D	760x90	8	10	4

h.p. and Name of Car.	Country of Origin.	Chassis with Tyres.	Car.	Seats.	PRICE.		ENGINE.										TRANSMISSION.				DIMENSIONS.				
					Equipment included with Car.	Cyls.	Cast.	Bore and Stroke.	R.A.C.	Tax.	Crankshaft Bearings.	Lubrication.	Cooling.	Carburetor.	Ignition.	Clutch.	Speeds.	Final Drive.	Wheels.	Tyres.	Wheelbase.	Track.			
15 Lancia	I	380	525	4	E, S, R, T	4	B	80 x 130	15.9	4	gms.	—	F	P	Own	MV	MD	4	B	AW, DR	815 x 105	9	4	4 1/2	
35 "	"	575	750	4	S, D, S*	4	"	110 x 130	30.0	8	—	—	"	"	"	"	"	"	"	W, DR	835 x 135	11	0	4 5/8	
35 " La Ponette	F	200	250	3	E, S, W	4	B	65 x 110	10.5	3	2	P	TS	Claudel	MF	LC	4	"	"	— D	710 x 90	8	2	4 0	
9 " Leve Bollee	E	150	200	2	E, D, Ss, W	4	"	80 x 130	11.1	3	2	"	"	TS	Claudel	MV	LC	3	W	AS, D	700 x 80	8	3	3 10	
16 "	F	405	405	5	"	4	"	83 x 110	17.1	6	—	"	"	"	"	"	"	"	B or W	AS, D	815 x 105	9	7	4 6	
18 "	"	385	—	—	"	4	"	85 x 120	17.9	6	—	"	"	"	"	"	"	"	B	Wire, D	820 x 120	9	11	4 6	
26 "	"	550	—	—	"	6	"	83 x 110	15.6	6	—	"	"	"	"	"	"	"	"	"	835 x 135	10	6	4 6	
14 Licorne	F	240	350	4	E, S	4	B	75 x 120	13.9	3	2	S	TS	Zenith	MF	LC	4	"	"	AW, F	700 x 85	—	—	—	
16 Little Four	U	173 1/2	173 1/2	2	E	4	P	3 1/2" x 38"	19.6	6	3	A	TS	Marvel	MV	FC	2	B	B	AW	30" x 3 1/2"	7	6	4 8 1/2	
*12-16 Lorraine	F	300	390	5	"	4	B	75 x 120	13.9	4	5	F	TS	Own	MF	LC	4	"	"	AW, F	815 x 105	9	4	4 5	
14-18 " Dietrich	"	345	475	5	"	4	"	80 x 130	15.8	4	5	F	"	Zenith	MV	"	"	"	"	"	"	880 x 120	10	5	4 7
18-20 "	"	405	540	5	"	4	"	90 x 130	20.1	6	5	P	"	Own	"	"	"	"	"	"	"	935 x 135	10	11	4 9
25-30 "	"	505	640	7	"	4	"	95 x 160	22.4	6	5	F	"	Zenith	"	"	"	"	"	Wire D	"	—	—	—	
40-75 "	"	800	1000	7	"	4	P	125 x 170	38.8	10	5	"	"	"	"	"	"	"	"	"	"	—	—	—	
16 "	"	—	—	—	"	6	"	80 x 150	—	—	—	"	"	"	"	"	"	"	"	"	"	—	—	—	
25 "	"	—	—	—	"	6	"	90 x 160	—	—	—	"	"	"	"	"	"	"	"	"	"	—	—	—	
28-9 Lozier	U	450	480	—	E, D, Ss, S, R	4	"	108 x 165	28.9	8	—	"	"	Stewart	Du	MD	4	B	AW, DR	910 x 115	10	0	4 8		
36 "	"	675	745	—	"	6	"	98 x 152	35.7	10	—	"	"	Rayld	"	"	3	"	"	"	"	—	—	—	
51 "	"	950	1060	—	"	6	"	117 x 140	30.5	20	—	"	"	"	"	"	4	"	"	"	940 x 120	10	11	4 8	
20-25 Marathon	U	—	335	5	E, S	4	B	89 x 114	19.6	6	—	"	"	Schebler	MF	LC	4	B	AW, F	810 x 90	9	0	4 0		
*10 Marlborough	F	165	200	2	S, W, T	4	B	62 x 100	9.5	3	3	P	TS	Zenith	MF	MD	3	B	AS, D	700 x 85	9	0	4 8 1/2		
*12-14 Marshall-Artel	E	153 1/2	176 1/2	2	E, W, T	4	B	60 x 110	8.9	3	2	I	TS	Zenith	MF	LC	3	B	AS, D	650 x —	8	9	3 8 1/2		
12 Mass	F	260	—	—	"	4	B	75 x 120	13.9	4	3	F	TS	Solex	MV	LC	3	B	AW, D	760 x 90	8	10	4 1		
15 "	"	310	—	—	"	4	"	80 x 140	15.9	4	3	"	"	"	"	"	"	"	"	"	815 x 105	9	2	4 2	
16-20 "	"	360	—	—	"	4	"	90 x 150	20.1	6	3	"	"	Claudel	"	"	"	"	"	"	820 x 120	10	5	4 3	
20-30 "	"	475	—	—	"	4	"	100 x 170	24.8	6	3	P	"	"	"	"	"	"	"	"	880 x 120	10	6	4 3	
15 Mass Paige	U	240	240	5	E, Ss, D, R, S	4	B	96 x 102	22.8	6	3	P	TS	Mayer	MV	P	3	B	AW, DR	840 x 90	9	2	4 8		
20 "	"	280	300	5	"	4	P	102 x 127	25.8	6	3	"	"	Stewart	Du	LC	4	B	Wire or AW, D	875 x 105	9	8	4 8		
*17 Maudslay	E	425	550	5	"	4	"	90 x 130	20.2	6	—	"	"	Own	"	"	"	"	"	"	820 x 120	10	0	4 6	
17 "	"	430	555	5	"	4	"	"	"	6	—	"	"	"	"	"	"	"	"	"	920 x 120	9	9	4 6	
17 " (Colonial)	"	450	—	—	"	4	"	"	"	6	—	"	"	"	"	"	"	"	"	"	—	—	—		
*18-22 Maxwell	U	595	725	5	E	6	B	92 x 114	30.2	8	—	"	"	"	"	"	"	"	"	"	—	—	—		
9 McKenzie	E	185	185	5	E, D, Ss, S	4	B	58 x 110	8.3	3	2	P	TS	Kington	Du	Cone	4	B	AW, F	760 x 90	11	5	4 6		
*15-20 Metallurgique	E	175	175	2	E, W, T	4	B	80 x 130	15.9	4	3	P	TS	Own	M	Cone	3	W	AS, D	700 x 80	8	6	4 0		
20-30 "	B	385	475	5	D, Ss*	4	B	80 x 140	20.1	6	5	F	TS	Zenith	MV	LC	4	B	AW, D	815 x 105	10	6	4 3 1/2		
20-40 "	"	525	650	5	E, D, Ss	4	"	90 x 140	20.1	6	5	"	"	"	"	"	"	"	"	"	820 x 120	11	5	4 3 1/2	
26-50 "	"	625	—	—	"	4	P	102 x 150	25.8	6	3	"	"	"	"	"	"	"	"	"	880 x 120	11	6	4 8	
38-80 "	"	875	—	—	"	4	"	125 x 150	38.8	10	3	"	"	"	"	"	"	"	"	"	895 x 135	12	3	4 8	
38-90 "	"	950	—	—	"	4	"	"	"	"	3	"	"	"	"	"	"	"	"	"	—	—	—		
*10 Meteorite	E	183	183	2	"	4	B	62 x 110	9.5	3	3	P	TS	Solex	MV	LC	4	B	AS, D	700 x 85	11	1	4 8		
16-20 Meteor	"	190	—	—	"	4	B	78 x 127	15.1	4	3	"	"	Zenith	"	"	"	"	"	AS, D	810 x 90	9	6	4 2	
14 Minerva	B	450	—	—	W	6	P	75 x 110	20.9	6	4	"	"	Stewart	"	"	"	"	"	AS, D	880 x 120	11	2	4 3	
18 "	"	450	—	—	"	4	P	75 x 120	13.9	4	5	P	"	G & A	MV	LC	4	W	Wire D	815 x 105	9	6 1/4	3		
26 "	"	555	—	—	"	4	"	90 x 130	20.1	6	5	"	"	"	"	"	"	"	"	"	820 x 120	10	8	4 3	
38 "	"	635	—	—	"	4	"	100 x 140	24.8	6	5	"	"	"	"	"	"	"	"	"	880 x 120	11	2	4 8	
15-20 Mitchell	U	300	380	—	E, D, Ss	4	"	124 x 150	38.2	10	6	"	"	"	"	"	"	"	"	"	—	—	—		
20-25 "	"	—	—	—	"	4	"	38 1/2" x 5 1/2"	22.5	6	8	"	"	"	"	"	"	"	"	"	34" x 4"	11	5	4 8	
						4	"	—	—	—	—	"	"	"	"	"	"	"	"	"	36" x 4"	10	7	—	

Model	Price	Engines	W, T	B	60 x 90	8" 9"	A	TS	W & P	MF	MD	W	AS, D	700 x 80	7	0	3	6
*10 Morris-Oxford	1734	E	4	4	60 x 90	8" 9"	3	3	SU	MV	3	B	AS, D	700 x 80	7	0	3	6
*12-15 Mors	1983	F	4	4	75 x 120	13" 9"	3	3	SU	MV	3	B	AS, D	765 x 105	7	6	3	9
14-16 "	300	"	4	4	"	"	—	—	"	"	4	"	AS, D	"	9	9	4	3
17-20 "	440	"	4	4	90 x 130	20" 1"	—	—	"	"	4	"	AW, F	880 x 120	11	1	4	3
20-30 "	500	"	4	4	100 x 140	24" 8"	—	—	"	"	4	"	Wire, D	815 x 105	10	8	4	6
35-40 "	680	"	4	4	124 x 150	38" 2"	—	—	"	"	4	"	AW, F	880 x 120	11	1	4	8
15" 9 Motobloc	315	F	4	4	80 x 120	15" 9"	4	4	Zenith	MF	4	B	AW, F	815 x 105	10	2	4	8
20" 9 "	417	"	4	4	90 x 130	20" 9"	6	6	"	MV	4	"	"	820 x 120	9	2	4	8
23" 8 "	450	"	6	6	80 x 120	23" 8"	6	6	"	"	4	"	"	"	10	6	4	8
*16-22 Napier	450	E	4	4	89 x 127	19" 6"	6	6	SU	MV	4	W	Wire, D	820 x 120	10	4	4	8
16-22 "	475	"	4	4	"	"	6	6	Own	"	4	"	"	"	10	11	4	8
20 " (Colonial)	420	"	6	6	"	"	8	8	Zenith	MV	4	B	AS, D	895 x 135	11	8	4	8
30-35 Nazzaro	750	T	4	4	89 x 127	26" 4"	6	6	Zenith	MV	4	B	AS, D	820 x 120	10	6	4	5
20-30 Nazzaro	495	T	4	4	100 x 140	24" 8"	6	6	"	"	4	B	"	"	10	6	4	5
*11" 9 Newton	495	T	4	4	69.5 x 140	11" 9"	3	3	Zenith	MV	4	B	AS or W, D	815 x 90	9	7	4	4
11" 9 "	275	"	4	4	"	"	3	3	"	"	4	B	"	"	9	7	4	4
9-11 Nova	150	E	4	4	60 x 100	8" 9"	3	3	Zenith	MF	4	W	Wire, D	700 x 80	7	6	3	9
*15-20 Oakland	280	U	4	4	88 x 127	19" 6"	3	3	Marvel	Del	3	B	AW, DR	815 x 105	9	4	4	8
15-20 "	280	"	4	4	"	"	3	3	"	"	3	B	"	"	9	4	4	8
15-20 Overland	198	U	4	4	"	"	6	6	Schebbs	MV	3	B	AW, DR	815 x 105	8	10	4	8
20-25 "	275	"	4	4	101 x 115	25" 6"	6	6	"	"	3	"	"	880 x 120	9	6	4	8
10-18 Palladium	210	E	4	4	69.5 x 120	11" 9"	3	3	Zenith	MF	3	B	AW, D	750 x 90	9	6	4	8
15-20 "	285	"	4	4	88.9 x 127	19" 6"	6	6	"	"	4	W	"	815 x 105	10	0	4	8
15-20 "	395	"	4	4	76.2 x 127	21" 6"	6	6	"	"	4	"	"	"	10	0	4	8
*12 Panhard	300	F	4	4	70 x 140	21" 1"	4	4	Own	MF	4	B	Wire, D	760 x 90	9	6	4	6
16-20 "	395	"	4	4	80 x 140	15" 9"	4	4	"	"	4	"	"	820 x 120	10	9	1	8
28 "	590	"	4	4	105 x 140	27" 3"	8	8	"	"	4	"	"	880 x 120	11	4	8	8
35 "	800	"	4	4	125 x 150	38" 8"	10	10	"	"	4	"	"	835 x 135	11	8	4	8
*10 Pearson-Cox	170	E	4	4	44 x 77	6"	3	3	Paraffin Fuel	"	1	W	Wire, F	700 x 80	7	6	3	10
15 " "	330	"	3	3	60 x 77	7 1/8"	3	3	"	"	1	B	AW, F	810 x 90	9	0	4	2
15 " "	335	"	3	3	"	"	3	3	"	"	2	"	"	815 x 105	9	0	4	2
6-8 Perry	127	E	4	4	72 x 108	6" 4"	3	3	Zenith	MF	3	B	AS, D	700 x 80	7	0	3	8
11" 9 "	175	"	4	4	69 x 120	11" 9"	3	3	"	"	3	"	"	750 x 85	8	6	3	10
6 Peugeot	160	F	4	4	55 x 90	7" 5"	3	3	Zenith	MF	3	B	Wire, F	550 x 65	6	0	3	5
12 " "	300	"	4	4	68 x 130	11" 3"	3	3	"	"	4	"	"	700 x 90	8	3	4	0
12 " "	300	"	4	4	85 x 140	18"	6	6	"	"	4	"	AW, F	815 x 105	10	6	4	7
14-20 "	495	"	4	4	95 x 160	22"	6	6	"	"	4	"	"	880 x 120	11	6	4	7
14-20 "	405	"	4	4	"	"	6	6	"	"	4	B	"	"	10	10	4	10
20-30 "	530	"	4	4	"	"	6	6	"	"	4	"	"	"	10	11	4	7
20-30 " (Sport)	500	"	4	4	"	"	6	6	"	"	4	"	"	"	10	11	4	7
*11-9 Phoenix	195	E	4	4	69 x 100	11" 9"	3	3	SU	MF	3	W	Wire, D	750 x 85	8	0	4	2
11-9 "	220	"	4	4	"	"	3	3	"	"	3	W	AW, D	760 x 90	9	6	4	2
*20 Pick	245	E	4	4	95 x 127	21"	3	3	Zenith	M	3	W	AW, D	810 x 90	10	0	4	6
20 " "	250	"	4	4	"	"	6	6	"	"	3	"	"	"	10	0	4	6

* LANCIA: Equipment is included in chassis price in 35 h.p. model. LORRAINE-DIETRICH: Chassis prices do not include tyres; further information re 6-cyl. models not yet available. MARLBOROUGH: Dynamo lighting, £10 extra; self-starter and dynamo, £20 extra. MARSHALL-ARPER: De Luxe model, £199 10s. MAUDSLAY: Slide valve or poppet valve engines optional on all models. MAXWELL: 2-seater, £180; Coupé, £215; 6-seater landaulet, £240. METALLURGIQUE: Chassis prices, except of 15-20, include dynamo and self-starter. METEORITE: Price with 3-seater body, £195. MINERVA: Equipment is included in chassis price. All models have Knight engines. MORRIS-OXFORD: Dynamo lighting 15 gns. on either model. MORS: Except the 12-15 all models have Knight engines; chassis prices are exclusive of tyres; all models have Citroen double helical bevel gears in back axle. NAPIER: Chassis 28 and 35 h.p. models include dynamo. NEWTON: P, previously known as the "Newton-Bennett." OAKLAND: Colonial models same price, with track of 5 ft. PANHARD: £30. PICK: Car prices also include electric lighting set. PEARSON-COX: Steam cars. PHENIX: Dynamo, £15 extra; self-starter and dynamo, £30.

Name of Car.	Country of Origin.	PRICE.			ENGINE.							TRANSMISSION.				DIMENSIONS.							
		Chassis with Tyres.	Car.	Seats.	Equipment included with Car.	Cyls.	Cast.	Bore and Stroke, in.	R.A.C.	Tax, gns.	Crank-shaft Bearings.	Lubrication.	Cooling.	Carburetor.	Ignition.	Clutch.	Speeds.	Final Drive.	Wheels.	Tyres.	Wheel-base, ft. in.	Track, ft. in.	
*16-20 Piccard-Pictet	Sw	392	—	—	—	4	—	80 x 140	15.9	4	—	F	P	Zenith	MV	MD	4	B	Wire, D	815 x 105	10 6 4	8 8	
16-20 "	"	480	—	—	—	4	—	85 x 130	17.9	6	—	"	"	"	"	LC	4	"	"	"	880 x 120	10 8 4	8 8
20-30 "	"	520	—	—	—	4	—	90 x 170	20.1	6	—	"	"	"	"	LC	4	"	"	"	"	10 2 4	8 8
20-30 (Sport)	"	540	—	—	—	4	—	100 x 150	24.8	6	—	"	"	"	"	MD	4	"	"	"	"	10 6 4	8 8
30-40 "	"	600	—	—	—	4	—	"	"	6	—	"	"	"	"	LC	4	"	"	"	"	10 11 4	8 8
30-40 (Sport)	"	680	—	—	—	4	—	"	"	6	—	"	"	"	"	LC	4	"	"	"	"	10 1 4	8 8
38 Pierce-Arrow	U	785	950	5	E, D, Ss	6	—	100 x 138	"	10	—	—	—	Own	Du	LC	4	B	AW, DR	910 x 110	11 2 4	8 8	
48 "	"	895	1060	7	"	6	—	112 x 138	"	20	—	—	—	"	"	LC	4	"	"	"	915 x 120	11 10 4	8 8
66 "	"	1130	1285	7	"	6	—	125 x 175	"	"	—	—	—	"	"	LC	4	"	"	"	920 x 135	12 3 4	9 9
12 Pilain	F	350	350	—	Hood and screen	4	B	70 x 125	12.1	4	3	F	TS	Claudel	M	LC	4	B	AW, F	"	"	"	"
17 "	"	350	450	—	"	4	B	85 x 140	17.9	6	3	P	P	W & P	M	LC	4	B	Wire, D	"	"	"	"
*15.9 Pilgrim	E	350	—	—	Hood and screen, W, T	4	S	80 x 120	15.9	4	3	P	TS	Zenith	MF	LC	4	B	AS, F	815 x 105	10 6 4	8 8 1/2	
12-16 Pipe	B	320	430	5	L, T	4	B	75 x 120	13.9	4	3	P	TS	"	MF	LC	4	B	D, R	810 x 90	9 10 4	8 8	
16-20 "	"	420	530	5	"	4	P	80 x 150	15.9	4	3	P	"	"	MV	LC	4	"	"	820 x 120	10 8 4	8 8	
24-30 "	"	595	725	5	"	4	P	100 x 180	24.8	6	3	P	"	"	"	LC	4	"	"	880 x 120	11 2 4	8 8	
33.6 Pullman	U	400	500	5	"	6	—	95 x 133	33.6	10	—	—	—	—	Du	MD	4	B	Wire, D	910 x 115	11 2 4	8 8	
15.9 R.C.H.	U	215	225	5	E	4	B	80 x 127	15.9	4	2	A	TS	Breeze	MF	LC	3	B	AW, DR	840 x 90	9 2 4	8 8	
9 Renault	F	173	208	2	"	2	B	80 x 120	7.9	3	—	A	TS	Own	MF	LC	3	B	AW, D	710 x 90	7 9 3/4	9 1/2	
13.9 "	"	306	377	4	"	4	P	75 x 120	13.9	4	—	"	"	"	"	"	3	"	"	810 x 90	9 10 1/4	4 1/2	
15.8 "	"	374	450	4	"	4	P	80 x 130	15.8	4	—	"	"	"	"	"	4	"	"	815 x 105	10 8 1/4	4 1/2	
22.4 "	"	554	—	—	"	6	T	95 x 160	22.4	6	—	"	"	"	"	"	4	"	"	880 x 120	11 8 4	9 1/2	
26.9 "	"	630	—	—	"	6	T	85 x 150	26.9	8	—	"	"	"	"	"	4	"	"	"	11 11 4	9 1/2	
37.2 "	"	910	—	—	"	6	B	100 x 160	37.2	10	—	P	TS	Zenith	MV	LC	4	B	Wire, D	935 x 135	12 3 1/4	11 1/2	
10 Riley	E	167	195	2	E, W, T	4	B	68 x 88	10	6	3	P	"	"	"	"	4	"	"	700 x 80	8 0 4	0 0	
17 "	"	355	430	—	"	4	"	86 x 127	18	6	5	"	"	"	"	"	4	"	"	815 x 105	10 4 4	7 7	
15 Rochet-Schneider	F	355	450	—	"	4	B	80 x 130	15	4	3	P	TS	Zenith	MF	LC	4	B	AW, F	815 x 105	9 11	—	
20.30 "	"	390	—	—	"	4	"	95 x 140	22.4	6	3	"	"	"	"	"	4	"	"	880 x 120	11 9 4	—	
20.30 "	"	570	—	—	"	6	"	80 x 120	23.8	6	3	"	"	"	"	"	4	"	"	"	11 3 4	5 5	
28 "	"	700	—	—	"	6	"	95 x 140	33.5	10	3	"	"	"	"	"	4	"	"	"	11 6 4	7 7	
30-40 "	"	608	—	—	"	4	"	110 x 140	30	8	3	"	"	"	"	"	4	"	"	"	11 6 4	—	
50 "	"	840	—	—	"	4	T	120 x 160	37.7	10	5	F	P	Own	Du	FC	4	B	Wire, D	895 x 135	11 6 4	9 9	
*Kolls-Royce	E	985	—	—	W	6	T	43 x 43	48.6	20	7	F	TS	Zenith	MF	LC	4	B	Wood	895 x 135	11 11 1/4	8 8	
12-16 Rossell	F	265	385	—	E	4	B	75 x 150	13.9	4	—	F	TS	Zenith	MF	LC	4	B	Sankey, D	815 x 105	9 4 4	3 3	
15 Rothwell	E	285	375	4	"	4	P	33" x 5"	15.5	4	3	F	TS	Zenith	MV	LC	3	B	"	"	9 0 4	3 3	
20 "	"	300	390	4	"	4	B	4" x 5"	25.6	6	3	F	P	SU	MV	SP	3	W	AW, D	810 x 90	9 6 4	3 3	
12 Rover	E	251	350	4	"	4	"	75 x 130	13.9	4	3	"	"	"	"	"	3	"	"	910 x 90	9 8 4	2 2	
12 " (Colonial)	"	—	375	4	"	4	"	"	"	4	3	"	"	"	"	"	3	"	"	"	9 8 4	8 1/2	
11.9 Salmon	E	165	200	3	E, R, T	4	B	69 x 90	11.9	3	—	F	TS	Zenith	MV	FC	3	W	DR	760 x 90	8 6 4	4 4	
11.9 "	"	165	225	4	"	4	B	"	"	3	—	"	"	"	"	"	2	"	"	"	8 6 4	4 4	
11.1 Saxon	U	105	—	—	E	4	B	67 x 102	11.1	3	2	A	TS	Meyer	At	P	3	B	Wire, F	28" x 3"	8 0 4	6 6	
*14-18 S.A.V.A.	B	295	—	—	"	4	B	75 x 140	13.9	4	2	F	TS	Zenith	MF	LC	4	W	AW, F	815 x 105	9 10 4	6 6	
14-18 "	"	315	—	—	"	4	"	"	"	4	2	"	"	"	"	"	4	"	"	"	10 6 4	6 6	
20-26 "	"	375	—	—	"	4	"	82 x 140	16.6	6	4	"	"	"	"	"	4	"	"	"	10 6 4	7 7	
20-26 (Sport)	"	395	—	—	"	4	"	"	"	6	4	"	"	"	"	"	4	"	"	"	11 2 4	7 7	
24-30 "	"	396	—	—	"	4	"	85 x 150	17.9	6	4	"	"	"	"	"	4	"	Wire, D	"	10 1 4	6 6	
24-30 "	"	416	—	—	"	4	"	"	"	6	4	"	"	"	"	"	4	"	"	"	10 1 4	6 6	
36-50 "	"	533	—	—	"	4	P	110 x 160	30	8	4	"	"	"	"	"	4	"	"	"	11 8 4	8 8	
36-50 "	"	553	—	—	"	4	P	"	"	8	4	"	"	"	"	"	4	"	"	"	11 8 4	8 8	
12-20 S.C.A.R.	F	300	350	4	E, D, Ss, T	4	P	70 x 140	12.1	4	—	"	TS	Zenith	MV	Cone	4	B	AS, D	810 x 90	9 10 4	3 3	

Model	Price	Engines	Wheels	Speed	Transmission	Disc	MV	Zenith	TS	F	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134	136	138	140	142	144	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194	196	198	200	202	204	206	208	210	212	214	216	218	220	222	224	226	228	230	232	234	236	238	240	242	244	246	248	250	252	254	256	258	260	262	264	266	268	270	272	274	276	278	280	282	284	286	288	290	292	294	296	298	300	302	304	306	308	310	312	314	316	318	320	322	324	326	328	330	332	334	336	338	340	342	344	346	348	350	352	354	356	358	360	362	364	366	368	370	372	374	376	378	380	382	384	386	388	390	392	394	396	398	400	402	404	406	408	410	412	414	416	418	420	422	424	426	428	430	432	434	436	438	440	442	444	446	448	450	452	454	456	458	460	462	464	466	468	470	472	474	476	478	480	482	484	486	488	490	492	494	496	498	500	502	504	506	508	510	512	514	516	518	520	522	524	526	528	530	532	534	536	538	540	542	544	546	548	550	552	554	556	558	560	562	564	566	568	570	572	574	576	578	580	582	584	586	588	590	592	594	596	598	600	602	604	606	608	610	612	614	616	618	620	622	624	626	628	630	632	634	636	638	640	642	644	646	648	650	652	654	656	658	660	662	664	666	668	670	672	674	676	678	680	682	684	686	688	690	692	694	696	698	700	702	704	706	708	710	712	714	716	718	720	722	724	726	728	730	732	734	736	738	740	742	744	746	748	750	752	754	756	758	760	762	764	766	768	770	772	774	776	778	780	782	784	786	788	790	792	794	796	798	800	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832	834	836	838	840	842	844	846	848	850	852	854	856	858	860	862	864	866	868	870	872	874	876	878	880	882	884	886	888	890	892	894	896	898	900	902	904	906	908	910	912	914	916	918	920	922	924	926	928	930	932	934	936	938	940	942	944	946	948	950	952	954	956	958	960	962	964	966	968	970	972	974	976	978	980	982	984	986	988	990	992	994	996	998	1000
15-19 S.C.A.R.	335	E, T	4	15.9	3	4	MV	Zenith	TS	F	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134	136	138	140	142	144	146	148	150	152	154	156	158	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194	196	198	200	202	204	206	208	210	212	214	216	218	220	222	224	226	228	230	232	234	236	238	240	242	244	246	248	250	252	254	256	258	260	262	264	266	268	270	272	274	276	278	280	282	284	286	288	290	292	294	296	298	300	302	304	306	308	310	312	314	316	318	320	322	324	326	328	330	332	334	336	338	340	342	344	346	348	350	352	354	356	358	360	362	364	366	368	370	372	374	376	378	380	382	384	386	388	390	392	394	396	398	400	402	404	406	408	410	412	414	416	418	420	422	424	426	428	430	432	434	436	438	440	442	444	446	448	450	452	454	456	458	460	462	464	466	468	470	472	474	476	478	480	482	484	486	488	490	492	494	496	498	500	502	504	506	508	510	512	514	516	518	520	522	524	526	528	530	532	534	536	538	540	542	544	546	548	550	552	554	556	558	560	562	564	566	568	570	572	574	576	578	580	582	584	586	588	590	592	594	596	598	600	602	604	606	608	610	612	614	616	618	620	622	624	626	628	630	632	634	636	638	640	642	644	646	648	650	652	654	656	658	660	662	664	666	668	670	672	674	676	678	680	682	684	686	688	690	692	694	696	698	700	702	704	706	708	710	712	714	716	718	720	722	724	726	728	730	732	734	736	738	740	742	744	746	748	750	752	754	756	758	760	762	764	766	768	770	772	774	776	778	780	782	784	786	788	790	792	794	796	798	800	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832	834	836	838	840	842	844	846	848	850	852	854	856	858	860	862	864	866	868	870	872	874	876	878	880	882	884	886	888	890	892	894	896	898	900	902	904	906	908	910	912	914	916	918	920	922	924	926	928	930	932	934	936	938	940	942	944	946	948	950	952	954	956	958	960	962	964	966	968	970	972	974	976	978	980	982	984	986	988	990	992	994	996	998	1000

* PICCARD-PICET: The 16-20 of 85 mm. bore, the Sports model 20-30, and both 30-40 models have Argyle single-sleeve valve engines; all chassis prices include air compressor. PILGRIM: Front wheel drive; horizontal opposed engine. RILEY: 17 h.p. model has helical third speed for silence; pump circulation if required on Colonial models. ROLLIS ROYCE: Spare wheels included in chassis price, also tools and spares. S.A.V.A.: Chassis prices are exclusive of tyres; prices of 24-30 and 36-50 include spare wheels. SCOUT: Price of 10 h.p. and 12-14 h.p. models with 4-seater bodies £395 and £340 respectively. SEABROOK R.M.C.: Price of long stroke model not yet fixed. SHEFFIELD-SIMPLEX: Colonial model has bevel drive; all equipments are included in above chassis prices. SIDDELEY-DEASY: All models have Knight engines; salt-starter £25 extra. SINGER: 10 h.p. model can be fitted with dynamo set at £9 15s. extra. SIZAIKE-BERWICK: Included in chassis price are clock, speedometer, revolution counter, spare wheel and tyre, and tools. SPYKER: Chassis prices do not include tyres. The 15-18 model at £500 has handtautlet body. STANLEY: Steam cars. STELLITE: Lower back axle worm ratio is supplied with the 3-seater body. STRAKER-SQUIRE: Dynamo lighting £25 extra.

h.p. and Name of Car.	Country of Origin.	Chassis with Tyres.	Seats.	Equipment included with Car.	PRICE.				ENGINE.				TRANSMISSION.				DIMENSIONS.						
					Car.	Chassis.	With Tyres.	Equipment included with Car.	Cyls.	Cast.	Bore and Stroke.	R.A.C.	Tax.	Crank-shaft Bearings.	Lubrication.	Carburetor.	Ignition.	Clutch.	Speeds.	Final Drive.	Wheels.	Tyres.	Wheel-base.	Track.
16 Sunbeam ...	E	350	440	E, W, T	4	B	80x150	15.9	4	F	P	Claudel	MV	LC	4	B	AW, D	815x105	10 4 4 6	10 4 4 6			
20 " " " "	"	460	550	"	4	T	90x160	20.1	6	5	"	"	"	"	4	"	"	820x120	10 10 4 7	10 10 4 7			
30 " " " "	"	585	675	"	5	"	"	30.2	8	7	"	"	"	"	4	"	"	880x120	11 9 4 7	11 9 4 7			
*7 Swift ...	E	125	140	E, D, W, T	2	B	75x100	7	4	2	TS	Long.	MV	LC	3	B	Wire, F	700x80	7 3 3 7	7 3 3 7			
10 " " " "	"	170	200	"	4	"	63x90	9.8	3	3	F	"	"	"	4	"	AS, D	760x90	7 3 3 7	7 3 3 7			
11 " " " "	"	"	295	"	3	"	69x120	11.9	"	3	"	"	"	"	4	"	AW, D	"	9 0 4 3	9 0 4 3			
11 " " " "	"	"	310	"	4	"	"	"	"	3	"	"	"	"	4	"	"	"	9 0 4 3	9 0 4 3			
11 " " " "	"	"	315	"	3	"	80x130	15.9	4	3	"	"	"	"	4	"	"	815x105	9 10 4 4	9 10 4 4			
15 " " " "	"	315	384	"	4	"	"	"	"	3	"	"	"	"	4	"	"	"	9 10 4 4	9 10 4 4			
*12 Talbot ...	E	"	410	E, D	4	P	80x120	15.9	4	3	P	Stewart	MV	LC	4	B	AS, D	815x105	9 5 4 4	9 5 4 4			
15-20 " " "	"	365	460	"	5	"	80x130	"	"	3	"	"	"	"	4	"	"	"	820x120	10 1 4 4	10 1 4 4		
20-30 " " "	"	475	495	"	5	"	90x140	20.1	6	3	"	"	"	"	4	"	"	"	"	10 7 4 7 1/2	10 7 4 7 1/2		
25-50 " " "	"	565	645	D, L	6	"	80x130	23.8	"	3	"	"	"	"	4	"	"	"	"	11 0 4 7 1/2	11 0 4 7 1/2		
25-50 " " "	"	515	610	"	5	"	101.5x140	25.6	"	3	"	"	"	"	4	"	"	"	"	11 7 4 7 1/2	11 7 4 7 1/2		
*14.5 Taunton ...	E	"	191	"	2	B	76x130	14.3	4	5	TS	Own	M	F&C	3	W	AS, D	810x90	10 0 4 6	10 0 4 6			
20 Turcat Merz ...	F	500	"	"	2	B	90x140	20.1	6	1	F	Zenith	MV	LC	4	B	Opticn.	880x120	10 0 4 6	10 0 4 6			
30 " " " "	"	615	"	"	4	"	100x150	24.8	"	5	"	"	"	"	4	"	"	"	"	11 4 4 8 1/2	11 4 4 8 1/2		
35 " " " "	"	762	"	"	4	"	110x160	30	8	5	P	Zenith	MF	LC	3	W	W, DR	750x80	8 0 4 0	8 0 4 0			
10-15 Turner ...	E	188	220	"	2	B	60x100	8.9	3	2	TS	"	"	"	4	"	W or SD	760x90	9 0 4 0	9 0 4 0			
12-20 " " "	"	250	285	"	2 to 4	"	76x120	14.3	4	2	F	"	"	"	4	"	"	"	"	9 0 4 0	9 0 4 0		
10-12 Unic ...	F	235	"	"	"	"	65x110	10.4	3	2	P	Own	MF	LC	4	B	Wire, DR	760x90	8 6 4 0	8 6 4 0			
12-18 " " "	"	304	"	"	"	"	80x130	15.9	4	3	"	Own	MA	"	4	"	AW, DR	815x105	10 0 4 5	10 0 4 5			
16-24 " " "	"	370	"	"	"	"	90x130	20.1	6	3	P	"	"	"	4	"	"	"	"	12 1 4 5	12 1 4 5		
*10-15 Universal ...	E	"	250	"	2	"	65x100	10.4	3	"	"	Zenith	M	LC	3	W	AW, D or	750x80	8 0 4 0	8 0 4 0			
12-20 " " "	"	"	350	"	5	"	70x120	12.1	4	"	"	"	"	"	4	"	Wire DR	760x90	8 8 4 0	8 8 4 0			
*15 Valveless ...	E	315	"	R	2	P	113x127	15.9	4	4	F	Own	MF	LC	4	W	AW, DR	815x105	9 3 4 8	9 3 4 8			
19.9 " " "	"	335	"	"	2	"	127x140	19.9	6	4	"	"	"	"	4	"	"	"	"	10 1 4 8	10 1 4 8		
16-20 Vauxhall ...	E	375	485	E, W, T, S, D	5	B	90x120	20.1	6	5	P	"	"	"	4	"	A, D	815x105	10 0 4 6	10 0 4 6			
25 " " " "	"	486	640	"	5	"	95x140	22.4	6	5	"	"	"	"	4	"	"	"	"	10 10 4 8	10 10 4 8		
25 " " " "	"	515	640	"	4	"	"	"	6	5	"	"	"	"	4	"	"	"	"	10 0 4 6	10 0 4 6		
35 " " " "	"	650	815	"	2	T	95x120	33.5	10	7	"	"	"	"	4	"	"	"	"	11 8 4 8	11 8 4 8		
10-12 Vermorel ...	F	225	275	E, W, T	2	B	66x110	10.8	3	3	P	Zenith	MF	LC	4	B	Wire, DR	750x80	8 3 3 11	8 3 3 11			
10-12 " " "	"	"	305	"	4	"	"	"	3	3	"	"	"	"	4	"	"	"	"	8 3 3 11	8 3 3 11		
15-18 " " "	"	395	362	"	2	"	75x130	13.9	4	3	"	"	"	"	4	"	Wire, D	810x90	9 4 4 0	9 4 4 0			
15-18 " " "	"	395	395	"	4	"	"	"	4	3	"	"	"	"	4	"	"	"	"	9 4 4 0	9 4 4 0		
8-10 Viceroy ...	E	"	179	E, W, T	2	B	58x110	"	3	"	"	Solex	M	LC	3	B	AS, D	700x80	8 6 3 10	8 6 3 10			
12-14 Vinot ...	F	285	355	"	5	"	70x110	12.1	4	"	P	Zenith	M	LC	4	B	WD or DR	760x90	9 3 4 1	9 3 4 1			
15-20 " " "	"	300	415	"	5	"	80x110	15.9	4	"	"	"	"	"	4	"	AW, DR	765x105	9 3 4 1	9 3 4 1			
15-20 " " "	"	350	465	"	5	"	80x130	"	4	"	"	"	"	"	4	"	Wire, D	815x105	9 11 4 5	9 11 4 5			
25-35 " " "	"	525	"	"	4	"	101x150	25.3	6	"	"	"	"	"	4	"	Wire or DR	895x135	11 0 4 7	11 0 4 7			
8 Vulcan ...	E	"	195	"	3	"	68x100	11.9	3	"	"	"	"	"	4	"	AS, D	700x80	7 6 3 9 1/2	7 6 3 9 1/2			
15 " " " "	"	235	345	E, D, Ss	4	"	80x120	15.9	4	"	"	"	"	"	3	W	AW, D	810x90	9 0 4 1	9 0 4 1			
15-20 " " "	"	283	395	"	4	"	80x130	"	4	"	"	"	"	"	3	"	"	"	"	9 5 4 8	9 5 4 8		
20-25 " " "	"	324	450	"	6	"	90x150	20.1	6	"	"	"	"	"	4	"	"	"	"	820x120	10 2 4 8	10 2 4 8	
25-30 " " "	"	425	580	"	8	"	89x120	29.4	8	"	"	"	"	"	4	"	"	"	"	875x105	10 3 4 8	10 3 4 8	
*9.8 Warren Lambert ...	E	"	125	"	2	S	88x90	9.8	3	2	F	Cox	MF	LC	3	B	Wire, F	650x65	6 2 5 6	6 2 5 6			
10 " " "	"	"	157 1/2	"	2	B	64x85	10.2	3	2	"	Zenith	MF	LC	3	"	"	"	"	700x80	6 7 3 6	6 7 3 6	
12 Waverley ...	E	"	305	E, W, T	4	B	75x130	13.9	4	2	"	Solex	MF	LC	3	B	AW, D	760x90	9 7 4 4	9 7 4 4			

Model	Price	Engines	Transmission	Chassis	Body	Lighting	Wheels	Other	Notes
12 Waverley...	230	U	3	3	3	3	3	3	SWIFT; Chassis price of 10 h.p. and 15.9 models include dynamo lighting with 5 lamps.
20 White	465	U	5	5	5	5	5	5	TALBOT: 20-30 and both 25-50 models are fitted with shock absorbers.
11-9 Whiting Grant	535	U	7	7	7	7	7	7	VALVELESS: Two-stroke engines.
12-16 Whitlock	145	U	2	2	2	2	2	2	WILTON: Dynamo lighting, £15 extra. Coupé body on same chassis, £215.
20-30	295	E	4	4	4	4	4	4	WINGFIELD: Chassis prices include spare Sankey wheel.
*Wilton	495	E	5	5	5	5	5	5	References—Country of Origin: E = England; S = Scotland; U = U.S.A.; F = France; Ir = Ireland; B = Belgium; I = Italy; Sp = Spain; Sw = Switzerland; H = Holland.
8-10 Winco	165	E	2	2	2	2	2	2	Equipment: H = hood, screen, lamps, horn and tools; W = spare wheel; T = spare tyre; D = dynamo lighting; Ss = speedometer; R = spare rim; Ac = air compressor; L = lamps; P = pump.
*10-4 Wingsfield	137	E	2	2	2	2	2	2	Ignition: M = magneto; V = variable firing point; F = fixed firing point; Del. = Delco system; Du = dual.
11-9	240	E	2	2	2	2	2	2	Lubrication: F = forced; P = pump; A = automatic; S = splash.
15-9	310	E	4	4	4	4	4	4	Cutach: LC = leather cone; FC = fabric-covered cone; D = disc; MD = multiple disc; P = plate; SP = single plate; M.Mex = metal-to-metal expanding; M.cont. = metal contracting; M.M. = metal to metal; ex = expanding.
17	400	E	4	4	4	4	4	4	Final Drive: B = bevel; W = worm; C = chain.
23-8	400	E	4	4	4	4	4	4	
38-4	550	E	4	4	4	4	4	4	
20 Withers	435	E	4	4	4	4	4	4	
25	500	E	4	4	4	4	4	4	
35-40	610	E	4	4	4	4	4	4	
16-20 Wolseley	520	E	4	4	4	4	4	4	
24-30	745	E, D	4	4	4	4	4	4	
30-40	995	E, D, Ss	4	4	4	4	4	4	

TAUNTON: Price WARREN-
 of 4-seater, £216; Colonial models with greater clearance at same prices. UNIVERSAL: 10-15 with three-seater body, £265.
 LAMBERT: Equipment, £10 extra. WILTON: Dynamo lighting, £15 extra. Coupé body on same chassis, £215. WINGFIELD: Chassis prices include spare Sankey wheel.
 References—Country of Origin: E = England; S = Scotland; U = U.S.A.; F = France; Ir = Ireland; B = Belgium; I = Italy; Sp = Spain; Sw = Switzerland; H = Holland.
 Equipment: H = hood, screen, lamps, horn and tools; W = spare wheel; T = spare tyre; D = dynamo lighting; Ss = speedometer; R = spare rim; Ac = air compressor; L = lamps; P = pump.
 Ignition: M = magneto; V = variable firing point; F = fixed firing point; Del. = Delco system; Du = dual.
 Lubrication: F = forced; P = pump; A = automatic; S = splash.
 Cutach: LC = leather cone; FC = fabric-covered cone; D = disc; MD = multiple disc; P = plate; SP = single plate; M.Mex = metal-to-metal expanding; M.cont. = metal contracting; M.M. = metal to metal; ex = expanding.
 Final Drive: B = bevel; W = worm; C = chain.

HERE AND THERE.

PRACTICALLY every British make of light car, as well as a few cyclecars, were to be seen at the "1915 Rallies" held by the Cyclecar Club at Hatfield, on Saturday last, and at Burford Bridge and Wisley Hut on Sunday, and at each place there was a good muster of spectators, who took a great interest in the new models. For the most part the models are practically identical with those of this year, such modifications as have been made being in the order of detail improvements.

DETAILS have been published by the *New York Herald* of a new fluid for motor use, which can be made for 3d. per gallon. It is said that a small quantity of naphthaline is added to a large quantity of water, with two secret ingredients, which can be purchased at any chemist. Tests are said to have shown that it gives 25 per cent. more mileage than petrol.

ACCORDING to the *Financier* a motor spirit, named "Natalite" is now being manufactured in Natal from the refuse of the sugar cane. It is stated that whereas in a comparative test with petrol the consumption was 19.4 miles per gallon, with "Natalite" it was 21 miles per gallon.

No motor car show will be held in Manchester in 1915, and the S.M.M.T. Council has resolved to recommend the Council, to be elected next year, to place the question of a 1916 show in the same position as the 1915 show.

THE Countess Fitzwilliam has given a Sheffield-Simplex motor ambulance to the St. John Ambulance Association, and it left for France last week.

IN the case of a military motor cyclist summoned at Eastbourne for riding at a dangerous pace, evidence was given by an officer of the defendant's regiment to the effect that he was riding with urgent despatches. The Bench decided not to convict, but said that the police did right to bring forward the case.

WRITING to the *Daily Mail* from Dunkirk on Sunday, Mr. G. Ward Price said that the Germans were accumulating at Ostend numbers of motor boats armed with machine guns. One theory is that the latter are intended for use on the canals, and another that they may be intended to cover an attempted landing between Nieuport and Dunkirk.

THE S.M.M.T. has decided not to recognise the Motor Cycle Show which it was proposed to hold in Edinburgh early next year.

THE *Daily Telegraph* correspondent at Copenhagen, telegraphing on Saturday, said:—

"I learn on the best authority that Germany is seriously feeling the shortage of oil for lubricating purposes, and this is interfering not only with the working of the railways, but also with her artillery. Germany is dependent for her supplies upon Galicia, which is now in Russian occupation."

THE Society of Motor Manufacturers and Traders has decided to donate 1,000 guineas to the Cycle and Motor Trades Benevolent Fund, one half to be allocated, as before, to the Non-subscribers Fund.

WRITING from Paris on November 18th, Mr. G. H. Parris, the *Daily Chronicle* correspondent, said:—

"The motor-wagon has exceeded all expectations, and, with the motor-bus and taxi-cab (1,300 motor-buses were requisitioned in Paris alone), has revolutionised the movement of troops and supplies.

"Nothing is known of the present German provision, but it is fearful to think what would have been the condition of the immense armies now in the field if the petrol engine had never been invented."

The National Society of Chauffeurs

OFFICIAL NOTICES



President.

The Hon. RUPERT GUINNESS, C.M.G., M.P.

Vice-Presidents.—Hon. ARTHUR STANLEY, M.V.O., M.P.;
LORD MONTAGU OF BEAULIEU; JOHN CATES, Esq.

Trustees.

Messrs. P. L. H. DODSON, W. M. LETTS, A. F. EASTON, H. PYE,
J. H. CURSON, C. W. NAIRNE.

Chairman of Committee.—Mr. C. W. NAIRNE.

Deputy.—Mr. A. HOLMES.

General Secretary.

ARTHUR SEXTON, Halkin Street, S.W. Kensington 4220.

AFFILIATED SOCIETIES.

The Nottingham and Notts Chauffeurs' Association,
Headquarters: 177, Wollaton Street.

Sheffield Chauffeurs' Society, Headquarters: 82, West Street.

Birmingham and District Chauffeurs' Association,
Headquarters: 99, John Bright Street.

Federation Mutuelle et Professionnelle des Conducteurs d'Automobiles
de Belgique, 23, Rue de l'Industrie, 23, Bruxelles.

The Motor Drivers' Approved Society for the purposes of the
National Health Act.

Objects.

To endeavour by all constitutional methods to procure the
following amendments to the Motor Car Act:—

1. That driving licences shall only be endorsed on conviction of an offence involving actual and wilful damage or injury to the public.
2. That endorsements shall lapse after a reasonable period.
3. That the owner of a car shall be held responsible for all excesses of speed committed by his servant unless (a) the driver is the sole occupant of the car, in which case the owner shall cease to be responsible, and (b) when the car is lent or hired, in which case the person under whose directions the chauffeur is driving shall be held responsible.
4. That fines shall be imposed in accordance with the earnings of the defendant, and not those of his employer.
5. That licences to drive motor vehicles shall only be granted to applicants who have satisfied the authorities of their competence to drive to the safety of the public.
6. To protect the interests of chauffeurs generally.
7. To promote amicable relations between employers and employees.
8. To provide legal assistance for members.
9. To assist members to find employment.
10. Benevolent fund, relief by loans, gifts, pensions for widows and orphans or other dependent relatives, convalescent homes, &c.
11. Clubhouse for members: Billiards, Dining Rooms, Bedrooms, &c. Country members note: "A Home from Home."

Official Notes.

The usual weekly meeting of the committee was held on Monday last, when there were present: Mr. C. W. Nairne, presiding; Mr. A. Holmes, Deputy-Chairman; Mr. J. H. Curson, Trustee; Committee: Messrs. Wallis, Graham, Wilson, Kidd, Brand, Bean, Warren, James, Adey, Norman and E. Emmerson.

The minutes of the previous meeting were read and confirmed.

Legal Department.

Application for legal aid was made by member No. 125, summoned for exceeding the speed limit. The secretary having reported the member in benefit, the application was granted.

A second letter from Mr. Appleton, with regard to the right to endorse a licence of a person not directly employing a chauffeur, caused considerable discussion. It appears that in the case mentioned, where a garage foreman was fined and had his licence endorsed, for starting to work a driver whose licence had run out, the foreman pleaded guilty, and therefore brought conviction upon himself. The wording of the endorsement is: "Permitting a man to drive a car without a licence." The Committee wish members who are acting as head chauffeurs to take care that the chauffeurs under them keep their licences renewed, otherwise, through neglect, there may be an endorsement for the offence of another.

Clubroom.

The Committee discussed ways and means for making the club premises attractive to members during the winter months, and final arrangements were made for the Whist Drive.

Correspondence.

Letters were read from Mr. W. Collier, acting-secretary for the Sheffield Chauffeurs' Association, the secretary being on active service. Mr. Tipper and Mr. Lowings, serving with the forces, report themselves fit and well.

Review of Events.

It is with the greatest satisfaction that I report our old friend Mr. H. Tipper fit and well. The report that he had been seriously wounded, and the delay in getting any information, had given cause for anxiety. The letters received from the front this week are in the same strain as those preceding them. They state: "We are having a rough time, but fit and happy." How different is the feeling of those in training at home. No complaints as to hard work, but terrible complaints regarding the food and accommodation. What a set-back to recruiting! On every hand you hear the same complaint with regard to food. There is plenty, but it is served up uncooked, and therefore not eatable, and on top of these complaints comes the scandal of the hut accommodation for the winter months. The lessons of the South African War have not been learnt, and some contractors are mulcting the community through the War Office in a manner which should bring severe punishment. If the new army is to be housed under conditions which will bring about bodily illness, by the time they should be fit hundreds will be useless. The people who fix up combines with a view to shoddy work and big prices should be convicted under the Assisting the Enemy Act, and shot. The Government are evidently serious in their intention to provide in a fitting manner for the widows and orphans of our soldiers and sailors. This is the correct thing to do. Nobody will grumble at extra taxation for such a laudable object. Recent taxation has been accepted in good part—but the supertax might have borne a bit more without injustice. It is better to pay for National Defence than National Disaster.

We are still winning, and our losses are heavy, and for every one lost we exact a toll of three, and so this massacre goes on week after week in the name of Christianity. What the workers have given must be considered when the harvest is reaped. Employment must be found for every man who, having fought for his country, needs work. Foreign labour must not be permitted until our own men are provided for.

Members are requested to note that the Sheffield Chauffeurs' Association has removed to larger premises, situate at 82, West Street. N.S.C. members are cordially invited to visit the new clubhouse, and may be sure of a hearty welcome.

Members are also requested to be careful; police traps are working in all districts.

Roll of Honour.

First List.

II. Tipper ...	Royal Horse Artillery.
C. Fisher ...	Motor Transport, A.S.C.
H. Barnes ...	" "
H. Rumsey...	Royal Navy.
G. Handford ...	Wolseley Motor Ambulance.
N. Darmaros ...	" "
F. Rogers ...	Royal Engineers.
R. Constable ...	Wolseley Motor Ambulance.
R. Fleet ...	Royal Horse Artillery.
F. Cole ...	Motor Transport, A.S.C.
F. Peters ...	" "
V. Cole ...	" "
A. Alexander ...	" "
J. Kelly ...	Wolseley Motor Ambulance.
G. Bentley ...	Motor Transport.
D. Hall ...	" "
J. Boulton ...	" "
F. Pledger ...	Flying Corps.
C. Simpson ...	" "
G. Cowe ...	Gordon Highlanders.

ARTHUR SEXTON, General Secretary.

Accepted to Membership.

Thomas O'Neill, Belfast.

Any member wishing to raise an objection to the election of the applicant for membership is requested to communicate with the secretary without delay.

Particulars of Membership.

Applicants must have at least 12 months' experience as paid drivers of motor vehicles, and must be men of undoubted good character.

First month's subscription (including entrance fee), 2s. 6d. Subsequent subscriptions, 2s. per month. Payable in advance on the 1st of each month. Badges, 1s. 1d., post free. Members may pay yearly 21s., or half-yearly 10s. 6d., payable in advance. A copy of the AUTO. is posted weekly to all members whose subscriptions are not in arrears, in order that they may be kept well posted in the progress made by the Society.

BY THE WAY.

MR. THOS. WARWICK is nothing if not original. I know this remark is not particularly distinguished for its originality, but it provides me with the least line of resistance in expressing myself. I see Warwick has applied on behalf of his company for £15,000 worth of the War Loan issue, and such confidence has he in these Bonds that he is prepared to accept them from customers in payment of debts for goods supplied by the Almagam Co. Not only so, but as he looks upon the Bonds as being as good as bank-notes, he is prepared to give "change" where necessary. The announcement in which he made this offer was a most striking one, and not the least for its originality in bringing the Almagam goods before the

plane tyres for use for war purposes, the Company have had to lay down more cord-making machines, and this has effected a more economical production of the famous Airless Cord. Hence the reduction in prices now announced. Thus coming as they do within measurable distance of ordinary canvas tyres, yet with quality enhanced and not by any means depreciated, more economical motoring is in sight, and to those who have not had practical experience of the wear-resisting quality of Palmers, I can unhesitatingly recommend their adoption. For it is after many thousands of miles have been covered that their economy is really brought home to the man who closely watches ultimate costs.

THE subjoined illustrations are from photographs of the 20 h.p. Sunbeam motor ambulance that has recently been supplied to the citizens of Wolverhampton, who have given the vehicle to the Third North Midland Field Ambulance of the R.A.M. Corp. The chassis is the latest type manufacture by the company, and among other interesting details to be noted is the fitting of twin wheels to the rear axle embodying Warlan dual rims. The body has provision for carrying four stretchers, which when not required fold against the sides of the body allowing accommodation on either side for sitting-up cases. Two boxes for surgical appliances and tip-up seats are also fitted in the interior of the body. The chassis has



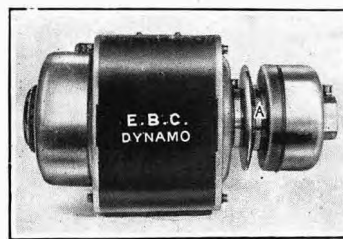
The Sunbeam motor ambulance given by the citizens of Wolverhampton to the 3rd North Midland Field Ambulance of the R.A.M.C.

notice of the public. There are few opportunities that Warwick misses in connection with the business of his firm, and in this one he has certainly taken his opportunity by a very long forelock.

ALBERT REEVE, a motor driver in the Army Service Corps, in a recent communication to his brother commented upon the running of many of the lorries in use at the front, and gave his experience, in the following words, of the Austin 2-3 ton lorry:—"I can tell you that they are proving their worth. I had one myself until just lately, but it's moved to one of the Cavalry columns. All the time that I had it I had not the slightest trouble with it. I lost sight of it for a week or two, but I happened to meet it last Wednesday (November 4th), and I had a chat with the chap that's driving it, and he gives it excellent praise." Knowing the conditions under which these vehicles are running, it must be extremely gratifying to the Austin Motor Co. to know that lorries of their manufacture are giving such a good account of themselves.

MOTORISTS will be interested to learn from our advertisement pages this week of the reduction of prices of Palmer cord tyres, which came into force on Monday, the 23rd inst. When one considers the exceedingly high mileages possible with Palmer cord tyres—often as many as 13,000 and 14,000 miles per cover—as compared with canvas tyres, it is hardly to be expected that they would ever be offered at the same rates as ordinary makes. However, in coping with contracts for an immense number of aero-

It is not inopportune to recall attention to the All-British E.B.C. dynamo lighting system for which the Electric Battery Co., 62, Eagle Street, Holborn, are responsible. The whole fitment costs only £18, fitted free, and is guaranteed for 12 months. The company have had quite exceptional experience in the manufacture of electrical



equipment for motor cars, and at the least it is safe to advise motorists to give the system a trial on their cars. From what I have been able to gather the E.B.C. has given many motorists the utmost satisfaction, and in view of its economical cost there must be many who would welcome the opportunity of providing themselves with an improved lighting system at so small an initial outlay.

MR. E. STURGESS ADAMS who was for some time associated with Messrs. Byroms and Studebakers, has received a lieutenancy in the A.S.C. (M.T.), and as there are no doubt many who will remember him, this item of news will come with some interest. He writes a most interesting letter from the front, and appears to be in the best of spirits.

been fitted with an Efanem dynamo lighting equipment, including two lights in the interior, and special kit boxes have also been fitted at the sides of the body for the use of the driver and orderly. A spare wheel complete with tyre and spare rim with tyre have also been provided. An exactly similar type of ambulance has been presented by Mr. Frederick E. Harrison, of Maer Hall Newcastle, to the same Field Ambulance under the command of Col. Dent. The Sunbeam Company have been exceptionally busy with Government work, but they are nevertheless able to undertake all private orders in the usual way.

MR. FRANK EASON, who, until recently was the sales manager of the Metallurgique Co., a position that he held for the past four years, has now been appointed to a similar position with the Maxwell Motor Co., whose offices and showrooms are at 212, Great Portland Street. He says he is looking forward to a very busy time, and with his experience in the pushing of cars, combined with the excellent article he is now handling ought to make his anticipations fruitful. The 18-22 h.p. Maxwell, which sells complete at £185, is admittedly something worth talking about.

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LEGAL INTELLIGENCE.

Continental Tyre and Rubber Co. (Great Britain), Ltd., v. Thomas Tilling, Ltd.

IN our last issue a report was given of this case heard in the King's Bench Division, and the following is *The Times* report of Mr. Justice Lush's judgment which was delivered on Monday last:—

Mr. Justice Lush, in delivering judgment, said:—The plaintiffs, who are an English company, incorporated and carrying on business in England. The defendants admit the purchase and delivery of the goods. The defendants resist the claim on two grounds: (1) that the plaintiffs cannot sue for the price of the goods during the war because, although they are an English company, the whole, or practically the whole, of the shares are held by alien enemies, for whose benefit, it is said, the payment would be made; and (2) that the action has been brought without the authority of the company. This second defence was only suggested at a very late stage of the hearing, but it was raised in consequence of the evidence of a witness called for the plaintiffs, and I thought that the defendants ought to be allowed to raise it. I was asked to determine the question of liability only, leaving the exact amount to be determined if necessary afterwards.

The facts with regard to the shares and the directorate of the company are these. The plaintiffs, although in a misleading publication issued by them they describe themselves as the parent or head company with branches in Germany and elsewhere, are one of many branches in different countries of a German company which is the parent company. The share capital of the plaintiff company is 25,000 £1 shares. The bulk of the shares are held by the German company, all the remaining shares, except one, being held by Germans resident in Germany. The managing director and other directors reside there. The remaining one share is held by a naturalized German who resides here. He is the secretary of the company and takes part in the management of its business.

Mr. Leslie Scott, for the defendants, contended that since it is unlawful to do any act, or to make any payment, for the benefit of an alien enemy, it would be unlawful to make a payment to the plaintiffs, because, he said, it would be a payment "for the benefit" of the German shareholders. This contention involves the proposition that it is unlawful for a British subject to trade in England with the plaintiff company. It is impossible, in my opinion, to say that it is lawful to make a contract with this company for the purchase of goods but unlawful to perform it. If the law permits and recognises the validity of a promise to pay, which is an essential term of the contract, it necessarily permits and sanctions the actual payment; and, conversely, if it prohibits the payment, it must prohibit, or, at all events, refuse to sanction, the making of the contract to pay.

Mr. Leslie Scott, while not altogether admitting that his argument did involve this wider proposition, contended that such trading was unlawful on the same ground—namely, that so to trade would be for the benefit of her alien enemy, the shareholders.

This contention is unsound, in my opinion, on several grounds. In the first place, if the legality of the trading depends on the nationality of the trader—and I do not think it does—one can only look at the nationality of the trading company, which in this case is English, not German. To say that one must ascertain who the shareholders in a company are, and what their nationality is involves a misconception. A company does not contract on their behalf or as their agents. It does not necessarily contract even indirectly for their benefit. The persons really interested in the trading by a limited company may be creditors or debenture-holders. The shareholders may be of one nationality at one time and of a different nationality at another.

A more conclusive answer to this contention is that the right of a company like this to trade and the right of British subjects to trade with it is clearly recognised and sanctioned both by the Trading with the Enemy Act, 1914, and by the Proclamation against trading with the enemy of September 9th, 1914 (No. 2). Section 2, subsection 2 (b), of the Act makes provision for the trading in England by a company one-third or more of whose issued share capital or directorate is held by or consists of alien enemies, and provides for the appointment by the Board of Trade of an inspector, who is empowered to examine the company's books and documents "for the purpose of satisfying themselves . . . that the company are not trading with the enemy." And the Proclamation provides (section 3) that "in the case of incorporated bodies enemy character attaches only to those incorporated in an enemy country," and (section 6) that "when an enemy company has a branch locally situated in British territory transactions by or with such branch shall not be treated as transactions by or with an enemy." Trading in England, therefore, with a company like this is recognised and permitted by the Proclamation, and section 1 (3) of the Act provides that

"Any transaction or act permitted by or under any such Proclamation shall not be deemed to be trading with the enemy." In view of the Act and Proclamation, therefore, trading with the plaintiff company is clearly permissible and lawful.

There is, however, a broader ground on which the defendants' contention is unsound. As I have said, I do not think that the legality of the trading depends on the nationality of the trader. It depends, as the Act and the Proclamation appear to me to indicate, on where the trader is residing and where the trading is effected, where the business is carried on and the payment made. The goods may be urgently required, it may be for public purposes, and, the payment being made here, they can be acquired without making the enemy country a penny the richer or adding anything to its resources. I fail to understand how it can be injurious to the interests of the State that a British subject should be allowed to purchase the goods in such circumstances because of the nationality of the vendor, or how public policy can require that he should refrain from acquiring them. The vendor and the disposition of the money he receives are, and will be, under the control of the laws of this country. It is not true to say that the vendor, who is resident here and was resident here before the war, sells the goods in the capacity of an alien enemy, or that he receives the money in that capacity, although he may be an alien enemy in fact, and it is not true to say that the act is done or the payment made for the benefit of an alien enemy in any effective sense. The enemy would no doubt benefit if the money were transmitted to the enemy country, but it would be the transmission of the money, not the payment in England or the sale of the goods, that would benefit them.

The case cited by Mr. Leslie Scott, *The Hoop* (1 C. Rob., 196), is not against this view, because there the goods were bought in the enemy country, and in *Wells v. Williams* (1 Ld. Raymond, 282), the place where the foreigner was resident appears to have been treated as the test in determining what his rights were. I wish to guard myself against being supposed to imply that if an alien enemy were to employ an agent here to sell goods as his agent, the purpose being to remit the money abroad, that would be lawful. It clearly would not. But the plaintiffs, though a branch of the German parent company, are not the agents of that company, and there was no suggestion that they brought their action for the purpose of unlawfully transmitting the money to Germany.

With regard to the point that this action was not authorized by the directors, there is no substance in it. It is in effect challenging the retainer of the plaintiffs' solicitors. The secretary told me, who is a member of what he called "the management," and I have no reason to doubt the truth of this statement, that he has constantly brought such actions as this, and that the directors have left it to him to cause a writ to be issued when necessary, and he has done so in this case with their authority, express or implied.

I must hold that the action is maintainable, and give judgment for the plaintiffs for such a sum as may be ascertained to be due, with costs.

His Lordship granted leave to appeal.



Patent Specifications Published.

Abbreviations:—cyl. = cylinder; I.C. = internal-combustion; m = motors.

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