

The Auto., August 20, 1910.

The AUTO

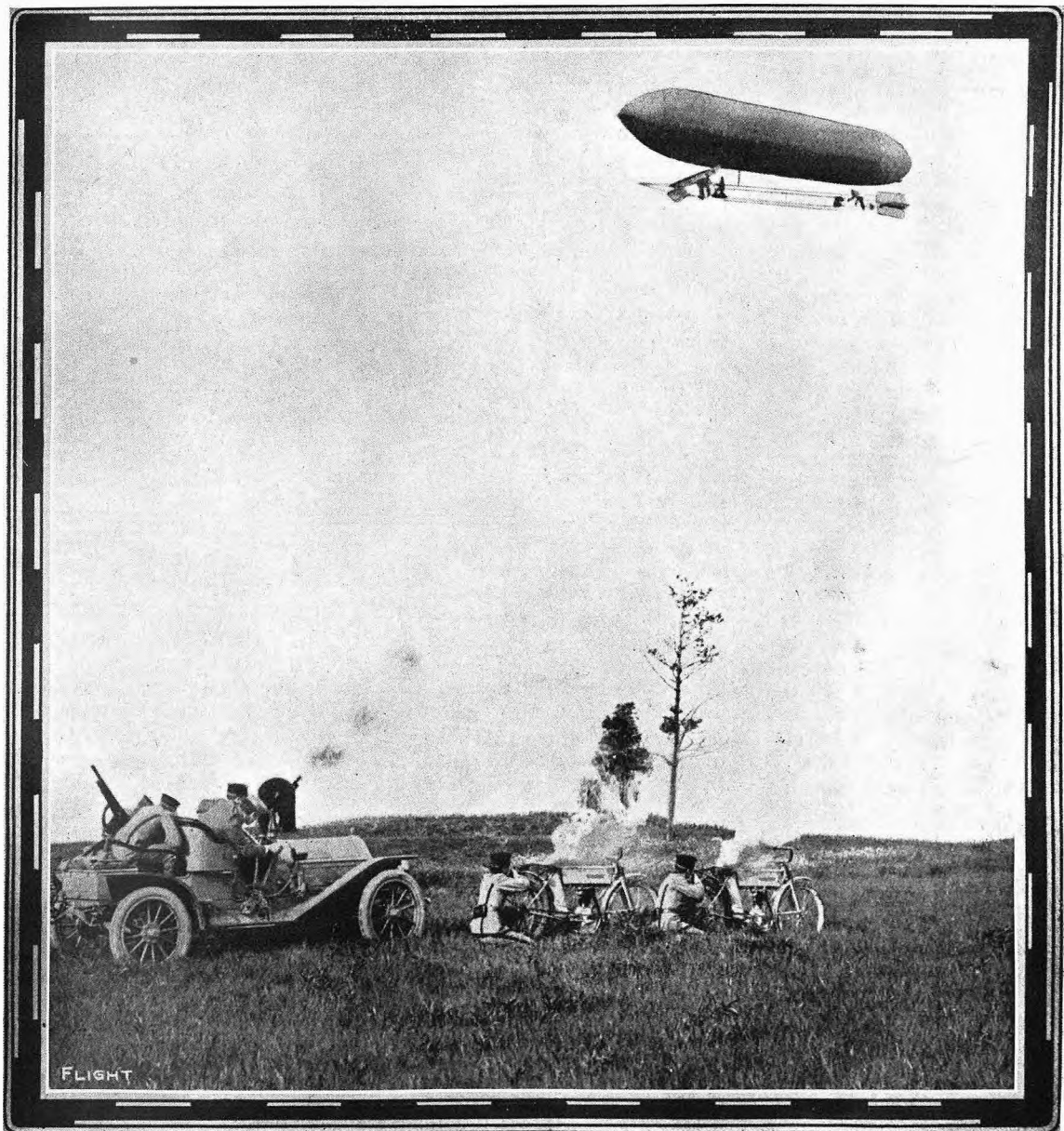
-MOTOR JOURNAL

The Motorist's Journal and Directory.

No. 502. (No. 34, Vol. XV.)

AUGUST 20TH, 1910.

Weekly, Price 3d.
Post Free, 3½d.



Some military tests by Major Davidson, of the North-West Military Academy, United States, carried out during the recent Glidden tour in America for the purpose of demonstrating not only the use of the motor car as an ordinary vehicle as an advance guard, but for the purpose of fighting airships and aeroplanes. Our pictures are from the *Scientific American*.

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See foot-note on back cover.

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DIARY OF FORTHCOMING EVENTS.

British Events.

1910.	1911.
Sept. 17 .. A.C.U. Annual Hill Climb.	Mar. .. Olympia Aero and Motor Boat Show.
Nov. 4-12 Olympia Motor Car Show.	Mar. (end) Olympia Commercial Vehicle Show.
Nov. 11-19 Stanley Show.	
Nov. 18-26 Olympia Motor Cycle Show	

Foreign Events (Trials, Races, &c.).

1910.	1910.
Aug. 15-Sept. 15 French Heavy Vehicle Trials.	Oct. .. French Small Car Trials.
Aug. 20 .. British International Cup.	Dec. 3-18 Paris Salon.
Aug. 21 .. Coupe des Voitures.	

CONTENTS.

	PAGE
<i>Passing Events:</i>	
Licences and their Renewal	902
Encouraging the Foreign Tourist	903
No More Isle of Man Races	903
A Club for Chauffeurs	904
Taxicab Drivers and Smoking	904
The Carburettor and Silencer Trials	904
<i>This Week's Unconventional Portrait;</i> by "E. K. S. Rae":	
Mr. Michael Egan	905
<i>Auto Technology:</i>	
Ten Maxims for Motorists	910
<i>Small Cars of 1910:</i>	
The Berliet "Fifteen." (Illustrated)	908
<i>Ideas in Coachwork:</i>	
A Lanchester Torpedo Phaeton. (Illustrated)	912
<i>Accessories of the Week:</i>	
The Kopalapso Hood. (Illustrated)	913
<i>Chassis Construction:</i>	
The Bedford "Fifteen-Eighteen." (Illustrated)	914
<i>General News:</i>	
Privileges for Motorists Visiting the U.K.	911
Motors and the Army	912
Military Motor Cars for Fighting Airships	923
Conclusions of Brussels Road Congress	924
<i>Races, Records and Trials</i>	919
<i>Book Reviews</i>	917
<i>Current Items of Interest</i>	921
<i>Motor Boating</i>	920
<i>Commercial Points</i>	926
<i>New Companies Registered</i>	925
<i>Exports and Imports</i>	925
<i>British Patent Specifications (Illustrated)</i>	926
<i>Company Doings</i>	925

For the "Auto." Directory to Makers of Cars and Accessories see pages xviii and xix.
Index to Advertisers, page xxii.



It is the custom of the responsible authorities in the case of almost every licence save their Renewal that of the motor car driving licence, to give notice to the holder when it is about to expire. It is true that most licences, with this one exception, have a habit of expiring with the end of the year, while the driving licence runs from date to date, so that in the case of the latter it would possibly involve a little more trouble to the authorities to keep track of those that are due for renewal. Even so, the cost of the licence is all clear profit to the revenue, and there does not seem to us to be any adequate reason why the same notification that is extended to the holder of a dog or carriage licence should not be given to the person who holds a licence to drive a motor car. In fact, there seems to us to be more reason why the latter should receive most-favoured-nation treatment in this respect than any other class of licence holder. As we have pointed out, other licences expire arbitrarily on December 31st, while the expiry of the driving licence is a varying quantity. Again, if the renewal of any other licence is neglected for a few days, or even for a week or two, the authorities are in the habit of allowing certain days of grace, and even though the limit be overstepped and legal proceedings should eventuate, the penalty imposed is generally a nominal one—in fact, it is more often than not compounded by

the authorities without the necessity of going into Court—while the motorist who has inadvertently allowed the renewal of his licence to stand over even for a day, and who happens to be held up by an officious policeman, will to a certainty be haled before the magistrates, with attendant inconvenience and loss of time, and usually with the depletion of his banking account to the amount of several pounds sterling, to say nothing of being branded with an endorsement on the new licence. Taking all these circumstances into consideration we think that a very good case can be made out for compulsory notification by the authorities of the impending expiration of the driving licence, and it is a matter that our motoring institutions might very usefully take up with a view to securing Local Government Board intervention. It may be argued that it is the motorist's business to see that his licence does not run out and land him in the Courts, but it is pretty safe to say that in by far the greater majority of cases the licence holder does not see the document from the time he takes it out until he renews it. It goes into the pocket-book or into one of the car pockets, and unless it is asked for by the police, there it remains until one day the idea occurs to the holder that it must be nearly time it was renewed, when it is fished out and almost as often as not discovered to be a week or so out of date. It may be the result of carelessness, but considering that the authorities are at no more expense in the issue of these licences than that of mere clerical labour and the cost of the paper, and that the penalties for non-renewal are so exemplary, it appears to us that the notification we suggest should be sent to the holder.

Encouraging the Foreign Tourist.

Whatever may be the opinion of the individual as to the fairness of the new scale of motor taxation as applied to cars owned and registered in this country—and that opinion is necessarily governed to some extent by the particular shade of political opinion affecting each individual—there can be no question but that if the scale rates were extorted from the casual motoring visitor to our shores, there would be a practical end to motor touring in Great Britain by Continental and American visitors. That would be regrettable from many points of view. In the first place, we should lose a very valuable international asset, inasmuch as the impressions carried away by the observant visitor—and the motor tourist is, generally speaking, drawn from the best and most intelligent class of the community, no matter of what nationality—is a very marked and valuable factor in the determination of that judgment of a people from outside which must have so great a bearing on international relations. In the second place, the tourist, particularly that class of tourist which has money enough to indulge in prolonged touring by car, brings much grist to the mill of the hotel-keeper and the garage proprietor. If this were the only reason why the influx of foreign motor tourists should be invited and encouraged, a good case would have been made out, for as all commerce resolves itself into a question of exchange, and much British money is spent abroad by holiday makers, we must have some means of preserving a balance.

With car taxation on the old basis, there was not much to be said against the impost being levied upon the casual visitor because the taxes were so low as not to be a deterrent upon the person who planned even a week's excursion in this country, but now that the tax has been multiplied, in some cases as much as ten-fold, the con-

ditions are altogether different. The R.A.C., by representing the matter in its proper light to the Treasury authorities and inducing them to issue regulations exempting cars visiting Great Britain under International touring passes from the incidence of the Inland Revenue taxation, has done a real service to the public interest, to say nothing of the good effect that must be produced on the movement itself. Now it will be possible for the tourist to bring his car to Great Britain, secure in the knowledge that all he will be called upon to pay are the registration fees in connection with the travelling pass—a mere matter of some twenty shillings. The regulations which have just been issued by the Lords Commissioners of the Treasury, bearing upon this subject, expressly include cars belonging to Colonial visitors, and do not necessarily apply only to cars owned in countries which have subscribed to the International Travelling Pass Convention. In the case of Colonial cars the procedure apparently is that the owner must register his car in the ordinary way with a county or borough council and file a declaration that the car is only to make a temporary stay in the country, the period during which the car may remain in Great Britain free of Inland Revenue duty being dated from the time of registration. The Treasury regulations governing the whole question are printed on another page of this issue of the AUTO.

No More Isle of Man Races.

As we have already announced in a previous issue, neither the R.A.C. nor the Society of Motor Manufacturers has been able to accede to the request of the Isle of Man authorities to promote a motor race in connection with the Douglas Jubilee celebrations next summer. The Society has already made its views on the question of motor racing sufficiently well known. In the view of the Executive there is nothing more to be learnt from the constructor's standpoint, and so far as the advertising value of long-distance road races and trials is concerned, they do not consider that the game is worth the candle. As our readers are by this time sufficiently well aware, we ourselves are in cordial agreement with the views outlined by the policy of the Society. So long as there was anything in the way of a useful lesson to be learnt by the manufacturer or the designer, and so long as the road race or the reliability trial had anything to tell the purchasing public as to the relative merit of this or that car, we supported these events to the utmost of our power and influence. The development of the car has, however, reached a stage when there is practically nothing more to be gained from either type of event—they have, in fact, become far more misleading than useful, and we are frankly not sorry to see an end of them. They have become luxuries that the trade simply cannot afford, and very wisely does not intend to try to afford.

Even if the Society had felt inclined to countenance the promotion of another race in the Isle of Man, it is rather difficult to see how the Club could have undertaken its organisation, having, as it will have, its hand practically full with the organisation of the competition for the Prince Henry Trophy. One big event of the kind during a year is quite enough to absorb the superfluous energies of even so efficient a promoting body as the R.A.C.

We are, as we have already said, entirely against either races or trials promoted no matter by whom in which the trade is asked to participate with the underlying idea that the results are likely to be beneficial to the buying public as affording a basis of comparison between the

various competing cars. Having made our position quite clear on this point, we may say that we have no prejudice in the world to motor racing, whether at Brooklands or in the Isle of Man, so long as it is made quite clear that it is racing of a purely sporting kind and promoted simply as a sport as distinct from the embodiment of the idea that the winner must necessarily possess all kinds of real and fancied merits which are not shared by the less fortunate. As a sport racing has much to commend it, and we should be sorry to see it die out altogether. It certainly helps to maintain public interest in the movement—as witness the crowds who flocked to see the last "Four-inch" Race—and we see no reason why it should not remain a popular form of amusement for years to come, provided it is conducted on the right lines as a sport. Although the Isle of Man has failed in enlisting the support of the Club and the Society, there does not seem to us to be any cogent reason why there should not be a race of some sort over the Island course. Provided the R.A.C. was satisfied that the promotion of an amateur road race was in the right hands, and would therefore be properly conducted, there does not appear to be anything against a permit being issued for the holding of such an event. Perhaps the Isle of Man authorities will take the hint and see what can be done.

**A Club for
Chauffeurs.**

We shall follow with no small amount of interest the progress and development of the scheme for providing a London club for chauffeurs, which was inaugurated the other day by the opening of the "Head Chauffeurs' Club" in Sherwood Street, W. It seems to us that the idea of a club where chauffeurs can meet socially and discuss matters affecting their profession, and where all the amenities of good class club life are provided, has everything about it that is commendable. The title of the club may not, at first sight, appear to be the happiest that could have been chosen, bearing, as it does, the inference that it is intended only for what may be termed the aristocracy of the driving fraternity—those who have charge of several cars and a staff of helpers under their orders—but when we come to look into the constitution of the club we find that the definition "head chauffeur" includes those drivers who have charge of a single car. Such a club as that which is now in active operation should fill a distinct gap in the comity of automobilism, and will undoubtedly make for an increase of *esprit de corps* among the best class of professional drivers. The subscription, we are glad to note, has been put at a figure sufficiently high to guarantee that only those men who are keen on their business and take a pride in it are likely to pay for the privileges of membership. It is an altogether admirable enterprise and we wish it every success.

**Taxicab
Drivers and
Smoking.**

Mr. Winston Churchill's letter to the Secretary of the London Cabdrivers' Trade Union, stating that he is reconsidering the regulations recently promulgated whereby drivers of taxicabs are permitted to smoke while on duty, has raised quite a storm of discussion, pro and con. We are inclined to think that the matter is one which will settle itself automatically as soon as the novelty of the concession to the drivers has had time to wear off. After all the taxicab driver is not as black as some would paint him, and the question of whether he should or should not smoke while driving a fare is one which may largely be left to his good sense and apprecia-

tion of the fact that if he wants to earn his living he must consult the reasonable tastes and desires of his fare. Even though he be fortified by official permission to indulge in the fragrant weed while conveying a passenger, that permission is largely tentative and subject to the wishes of the fare, and there must be very few in the ranks of the drivers who would persist in smoking after a request to desist had been made. If there is such a minority, then they are pretty certain to be weeded out in a very short time—there is no room in these days of stress and competition for the idle or the insolent. It is perhaps natural that the removal of the restriction as to smoking by drivers should have led to a permissive regulation degenerating into something like licence at the beginning. That sort of thing always happens when any existing restriction is removed, but as the sense of novelty wears off this licence soon disappears. We shall be sorry if the Home Secretary feels himself compelled to withdraw the privilege, because we are convinced that things will right themselves without interference. In any case, they have hardly been given an opportunity yet, and matters might very well be allowed to remain as they are for another three months. If at the end of that time the public is against the spirit of the regulation, it can be altered, for it must be always kept in mind that the taxi exists for the convenience of the public and not the other way about.

**The
Carburettor
and Silencer
Trials.**

Our remarks upon the announcement that the Club intends to hold a trial of carburettors and silencers, which appeared in our issue of a fortnight ago, have been taken in some quarters to mean that we are against a trial of the silencer at all. We are fain to admit, after re-reading our article on the subject, that this is a fair inference to be drawn from what we wrote, but we hasten to disclaim any intention to convey that impression. From the Club's announcement that it intended to hold such a test, we deduced that the idea was to test the two devices *in combination* and not separately, with a view to securing data relative to the emission of exhaust gases and possible improvements therewith. We are assured, however, that that is not the intention, and that the sole object of a silencer trial is to test that device for efficiency in relation to its primary function of silencing the exhaust with the minimum absorption of power from the engine. That being so, the trial has our unqualified approval. As we stated in our previous article on the subject, the silencer, taken all round, is reasonably efficient, though there are a few which fall lamentably short of the ideal—indeed, it has been ascertained by private test that some absorb 25 per cent. of the engine power at 1,500 revolutions! Of course, in the majority of cases the loss does not even approximate this figure, but the fact that even one silencer is convicted of being such a shocking power-waster indicates that the sum total of our knowledge relating to the problem of silencing the exhaust is by no means complete, and that there is a strong *raison d'être* for such a trial as the Club contemplates.

Even though such a test resolved itself into a demonstration that every silencer is perfect and absorbs no power, there would still remain to it a large measure of usefulness, for it would at least show that the use of the objectionable exhaust cut-out does not necessarily mean that more power is available for purposes of propulsion, and that there is no excuse for the motorist who constitutes himself a public nuisance by its use.

**MEN OF MOMENT
TO THE PRIVATE OWNER.**



XXVIII.—MR. MICHAEL EGAN.
"Dunlop Tyres."

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It is essential to ensure that all entries are clearly legible and dated.

3. The second section covers the various methods used to collect and analyze data.

4. These methods include direct observation, interviews, and the use of questionnaires.

5. Each method has its own strengths and weaknesses, and the choice of method depends on the nature of the study.

6. The third part of the document describes the process of data analysis and interpretation.

7. This involves identifying patterns, trends, and relationships within the data.

8. The final section discusses the importance of reporting the results of the study in a clear and concise manner.

9. This includes writing a report that is easy to read and understand.

10. The report should also include a summary of the findings and conclusions.

11. In conclusion, the document emphasizes the need for thoroughness and accuracy in all stages of the research process.

12. Only by following these guidelines can we ensure that our research is of high quality and provides valuable insights.

13. The document is intended to serve as a guide for anyone undertaking a research project.

14. It is hoped that this information will be helpful and informative.

15. Thank you for your attention.

16. Sincerely,
[Signature]

17. [Name]
[Address]
[City, State, Zip]

18. [Phone Number]
[Email Address]

19. [Date]

UNCONVENTIONAL PORTRAIT OF THE WEEK.

MR. MICHAEL EGAN.

ALTHOUGH he cannot be said to be one of those trade personalities who live for ever in the public eye, Mr. Egan, who presides over the destinies of the motor tyre branch of the Dunlop Pneumatic Tyre Co., is most distinctly a man of considerable moment to the private car owner. On him and his satellites devolves the duty of distributing the Dunlop motor tyre to the uttermost ends of the kingdom, so that the local motorist and the stranded wayfarer may not fail in securing just that size and type of Dunlop which best fits in with his requirements. It is probable that very few private users think, when they are purchasing their tyres in some remote town or village, of the stupendous organisation which has had to be built up in order that their requirements may be satisfied with the minimum of delay and of the amount of time and thought that has gone to the perfecting of the wonderful distributing machine over which the subject of our sketch presides, and presides so successfully that, no matter where one may be, it is long odds that the very Dunlop that is wanted will be forthcoming.

Mr. Egan will tell you, if you inquire of him, that he has no history—that his life, since he began his business career, has been singularly devoid of interest except to himself, and that, having said so much, there is nothing more to be said. Compared with some of the rolling stones of the motor trade—some of whom, as if to disprove the well-worn tag of our school days, have gathered unto themselves much moss of a yellow hue—that may, to some extent, be true. He has no moving stories of adventure by flood and field to relate, but there is a fund of interesting anecdote hidden behind his somewhat impassive personality which sparkles with native humour in the relation when he drops the rôle of the severely practical business man for that of a less serious character. Born and educated in Dublin, he is somewhat of a paradox, for one of his chiefest characteristics is a modest and retiring disposition—the most difficult thing in the world is to get him to talk about himself—a phase of personal character which is not always oppressively manifest in the native of the Emerald Isle. Even though this is so in the case of our subject, there is present that innate charm of manner and ready conversational ability that one usually associates with the cultured Irishman, and which takes him so far along the road to success as to give him an appreciable handicap in the race of life.

His business career, from its commencement to the present day, may be summed up in one word—Dunlop. Joining the Company early in 1893, when it was very far from being the huge organisation it has since become, and when, in fact, the future of the pneumatic tyre was very much in the air—this is meant quite seriously, and is not intended as an attempted joke—he rose step by step until he became Registrar of the Company. With the exception of a very few months spent on the Company's business in Belfast, he was associated with the Dublin end of the Dunlop business for most of his service, until in 1907 he was selected to succeed Mr. F. C. Baisley in the

control of the motor tyre department the latter having been designated to manage the business of the Gladiator Co., which had then been established as a separate concern in this country.

In the early nineties Mr. Egan was, like many of those who have since graduated to important positions in the motor trade, an enthusiastic cyclist. That he has not a long list of successes on road and path to his credit is perhaps the result of accident. He tells a characteristic story of how he became infected with the desire to become a champion of the path, and, in order to learn the game from the beginning, he became a frequenter of the racing tracks in and around Dublin. He had acquired much necessary information relative to the methods of the cracks, and had almost made up his mind that it was time to start seriously training, when, watching a preliminary heat one day, he overheard two of the riders arranging quite openly which was to win. That decided him that cycle racing was no pursuit for him. This anecdote has been set down at length because it is so characteristic of the man himself as his intimates know him—the game was not clean, and he would have none of it.

E. K. S. RAE.

UNCONVENTIONAL PORTRAITS ALREADY PUBLISHED.

"LEADERS IN MOTORISM"

1. H.S.H. PRINCE FRANCIS OF TRUCK, K.C.V.O. (Chairman of the R.A.C.).
2. SIR C. D. ROSE, BART., M.P. (Past Chairman R.A.C.).
3. HON. ARTHUR STANLEY, M.P. (Past Chairman R.A.C.).
4. COL. H. C. L. HOLDEN, R.A., F.R.S. (Past Chairman R.A.C.).
5. MR. ROGER W. WALLACE, K.C. (Past Chairman R.A.C.).
6. MR. F. R. SIMMS, M.I.M.E. (Past President S.M.M.T.).
7. MR. E. E. MANVILLE, M.I.M.E. (President S.M.M.T.).
8. MR. SIDNEY STRAKER, M.I.M.E. (Past President S.M.M.T.).
9. MR. W. JOYNSON-HICKS, M.P. (Chairman of the M.U.).

&c. &c. &c.

"MEN OF MOMENT."

1. MR. J. D. SIDDELEY.
2. MR. J. C. MORT ("N.E.C.").
3. MR. J. ERNEST HUTTON.
4. MR. THOMAS CLARKSON ("Steam Buses").
5. MR. MAWDSLEY BROOKE ("Motor Boats").
6. MR. J. W. STOCKS ("De Dion Cars").
7. MR. PERCY C. KIDNER ("Vauxhall Cars").
8. MR. TOM THORNYCROFT.
9. MR. F. S. BENNETT ("Cadillac Cars").
10. MR. T. C. PULLINGER.
11. MR. WARWICK WRIGHT ("Metallurgique Cars").
12. CAPT. H. H. P. DEASY, F.R.G.S.
13. MR. W. YARWORTH JONES ("Reinforced Tubes").
14. MR. PERCY RICHARDSON ("Sheffield-Simplex").
15. MR. F. W. SHORLAND ("Clement-Talbot Cars").
16. MR. A. MOSSES ("Clement Cars").
17. MR. L. C. RAWLENCE ("Berliet Cars").
18. MR. A. H. ADAMS ("Pedals to Push").
19. MR. H. M. HOBSON.
20. MR. F. C. BAISLEY.
21. THE MARQUIS DE DION.
22. MR. GORDON USMAR ("Vinot Cars").
23. MR. A. E. NEWTON ("Motor Lubrication").
24. SIR MARCUS SAMUEL, BART. ("Shell").
25. MR. ARTHUR E. BENNETT ("Bosch Magnetos").
26. MR. A. E. CROWDY ("Crowdy Cars").
27. MR. J. S. MATTHEW ("Argyll Cars").

SMALL CARS OF THE YEAR.

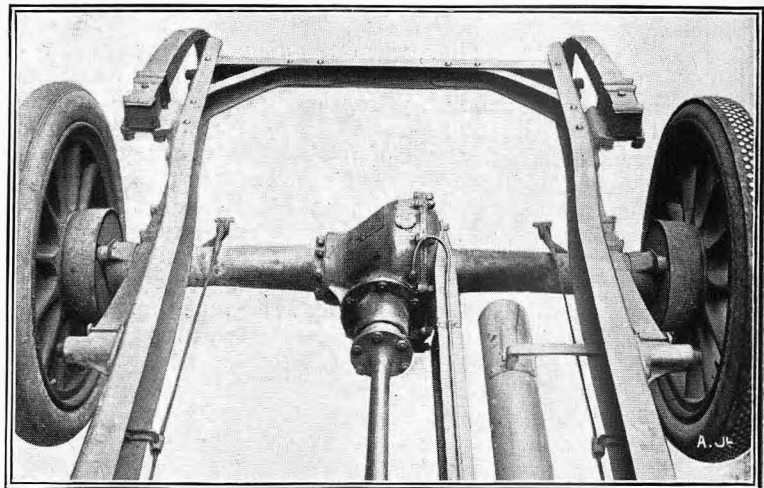
THE 80 MM. CLASS. THE BERLIET "FIFTEEN."

ONE of the liveliest small cars on the market is the Berliet "Fifteen," which has a 4-cyl. engine of 80 mm. bore by 120 mm. stroke, and is available with either a three-speed or four-speed gear-box. It is almost unnecessary now for us, in these articles, to reiterate the preference we have for four speeds on small cars, and although the Berliet engine is a remarkably fine motor for turning fast and especially for accelerating under load, we do not see any reason for altering our opinion, and if it were a matter of personal preference we should certainly choose the four-speed model, even though it is a little more costly to buy in the first instance.

As a car, the Berliet is not slow with either set of gears, and it is probably not very much faster with four speeds than with three; few cars are, but the point is that the fourth speed represents a higher ratio than the three-speed box can be conveniently made to produce without encroaching on the utility of the first speed as an emergency gear. The result is, therefore, that the fourth speed tends to save the engine a little from the high revolutions at which it otherwise continues to work down hill as well as up. Few roads are level, and on these smaller cars that are now so popular a change of grade is very apt to be unduly taken advantage of by many drivers who push their engines for all they are worth when the opportunity offers. A Berliet engine will stand about as much fast running as any we have ever handled, and we do not imagine that either the manufacturers or their representatives in this country ask for any leniency in this respect. On the contrary, they are probably quite pleased to find their motors stand up, as they are doing and have done since they began to make cars, to any sort of work that they are called upon to do. Nevertheless, there are

other drivers who take a greater pleasure in driving so that they make everything as easy as they possibly can for their machine, and it is to them that the four-speed model will perhaps more particularly appeal, especially if it has, as is so often the case, rather a heavy body of the landaulette type.

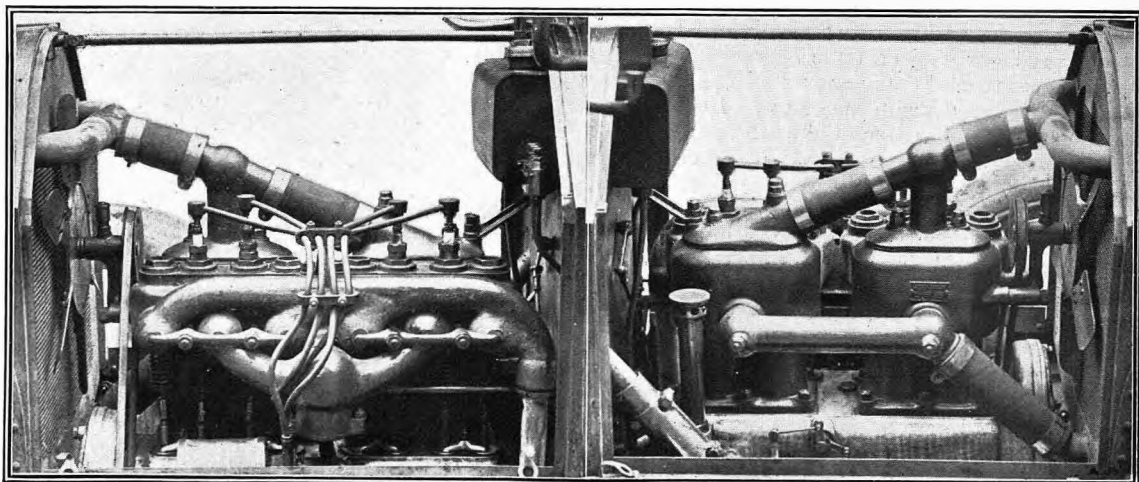
If liveliness is a characteristic of the Berliet car on the



"Auto." (Yellow Cover) Copyright.

The Berliet back axle—a remarkably sound job for a "fifteen."

road, simplicity and strength are the two predominant qualities of the chassis construction, and anyone buying the Berliet "fifteen" need have no fear but that they are procuring a really sound car of good material assembled by first-class workmanship. Engine, gear-box, and back axle are all well thought out designs and equally well made; so are the brakes. The control of the Berliet car is another of its good qualities. The arrangement and action of the pedals and levers is essentially such as



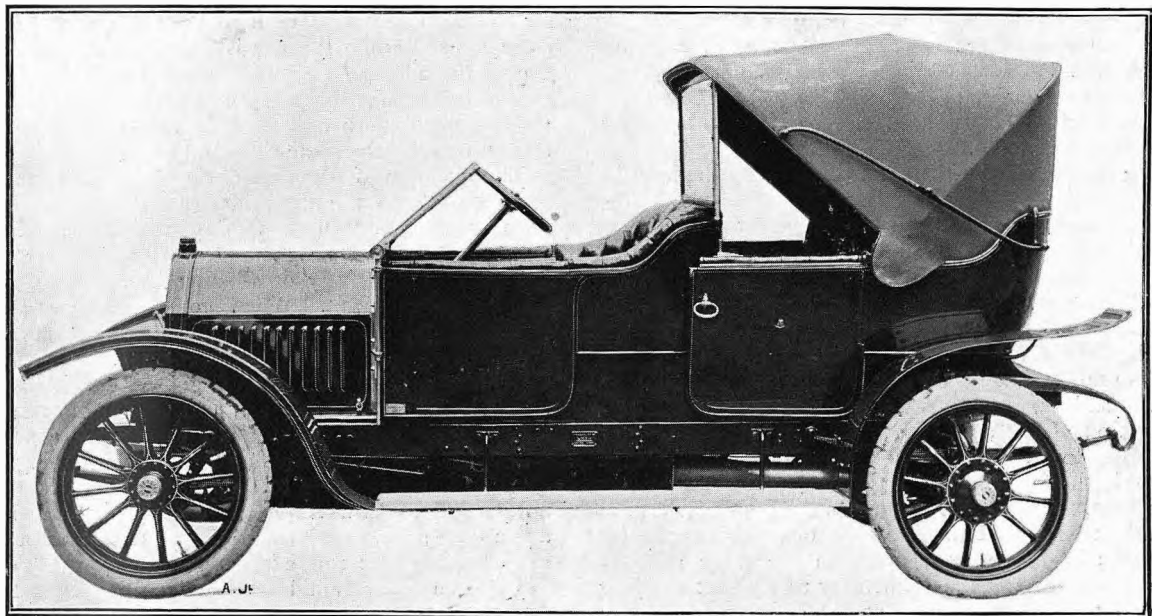
Two views of the Berliet engine.

"Auto." (Yellow Cover) Copyright.

would appeal to a practical driver who can appreciate the benefits to be derived from a well arranged mechanism of this kind. The accelerator pedal is hinged to the dashboard and lies outside the brake pedal in a position that is particularly convenient and far more comfortable than on many cars we have used. The response of the carburettor to the throttle opening is immediate, and the engine has quite a wide range of useful speed, pulling well slowly and running fast with equally good effect. The clutch, which is of the multiple-disc type, has a gradual action of engagement that has always been rather a marked characteristic of Berliet cars, and the foot brake, if applied with the same gentleness, has equally smooth and equally effective qualities of retardation. In the interim, between the use of the clutch and the brake, when the car is under way, there is a rare pleasure to be derived from handling a machine of this

kind, which is, as we have often thought, admirably expressed by that series of very able colour sketches of motoring incidents that were published by the Berliet firm some little while ago and were reproduced in the AUTO. of that period. They depict scenes *en route* with a car in France, and show the Berliet to be just the sort of vehicle that adds to the joy of life on the open roads.

These four-speed Berliet chassis are made in two different lengths of wheel-base, one of which is unusually long (10 ft. 1 in.) for cars of this type, and those who seek for the accommodation that such a wheel-base implies might well be pleased to know that it is available in this instance. The three-speed chassis has two different lengths of wheel-base also, but the longest of these is 9 ft. 7 in. The standard chassis of each type have wheel-bases of 9 ft. 3 in. and 9 ft. 9 in. respectively, and the shorter of these is a very good length for touring cars.



BUILT IN FRANCE.

LEADING FEATURES OF THE BERLIET "FIFTEEN."

PRICE.

Car complete with all fittings shown in the above photo £515

CHASSIS £385

ENGINE.

Cylinders cast in pairs. Base-chamber detachable.

Four cylinders, 80 mm. bore by 120 mm. stroke. R.A.C. rating, 15.9-h.p.

Average fuel consumption (four passengers) is 25 miles to the gallon with Berliet carburettor.

H.T. magneto ignition. Thermo-syphon cooling. Forced feed lubrication.

600 miles per gallon of lubricant.

TRANSMISSION.

Plate clutch. Four speeds and reverse. Direct on fourth.

DIMENSIONS.

Wheel-base, 9 ft. 9 ins. Track, 4 ft. 9 ins. Overall length, 12 ft. 11 ins.

Overall width, 5 ft. 7 ins. Body platform length, 8 ft. 3 ins.

Chassis weight, 16 cwt. Car ready for road, 20 cwt.

Tyres included in chassis price, Michelin or Dunlop, 815 mm. by 105 mm. back and front.

Minimum clearance is 10 ins. above the ground with 815 mm. wheels.

AUTO TECHNOLOGY.

Elementary Articles on any Technical Subject will be included in this Section at the Request of Readers.

TEN MAXIMS FOR MOTORISTS.

AN arbitrary code of conduct that in any way savours of a counsel of perfection is unfortunately predestined to fall short of achieving its purpose, and it has frequently seemed to us that much of the good advice that has been bestowed upon motorists loses its vital force for this very reason. In the following ten maxims we have endeavoured to sum up the "essential minimum" in the way of principles that should be put into practice by all who drive cars on the road. It may be that there are some who will think that these are inadequate, but we do not believe there are many who will consider any one of them superfluous.

The ten maxims are as follow :—

1. Look at the change-speed lever before taking hold of the starting handle.
2. Never drive faster than you can stop on the road in sight.
3. Pull up on the *hand*-brake alone now and again.
4. *Always* signal what you are going to do.
5. Take heed of signs.
6. Keep to the left at corners.
7. Give an approaching car all the room there is.
8. *Refuse* to overtake on the left.
9. Do not *assume* that anyone has heard your horn.
10. Accidents *must* be avoided.

The first of the above rules may come somewhat as a surprise, for it might, at first sight, be argued that if we admit the supervision of the car to a code of this description, there will be no end to the technical advice that might be included. We look upon this particular piece of advice, however, much in the same light as a sportsman regards the elementary rule about carrying a gun so that it never points at anyone's head. A man may be a good, bad, or indifferent shot, but there is no excuse for carrying his gun in a dangerous position. Similarly, a motorist may be a good, bad, or indifferent driver, but he deserves no sympathy if he ever gets run over by his own or anyone else's car as the result of starting the engine with a gear "in."

Our second maxim, "Never drive faster than you can stop on the road in sight," sums up the question of the moral speed limit for the expert and the novice alike. It is futile to say that a driver must go slow here or go slow there—he simply does not abide by the principle even if he accepts it, but we contend that a good driver does drive in accordance with the above maxim, and it is certainly a rule that should be most assiduously practised by the novice whose chief aim should be to acquire that complete knowledge of his car that will enable him to judge to a nicety the distance in which he can stop. Especially would we draw attention to the fact that it covers the whole question as to how fast it is permissible to take a corner. A corner under ordinary conditions of touring should only be driven round just as fast as will allow the driver to stop the car within the length of clear road that he can see immediately in front of him.

The third maxim, which relates to the use of the hand brake, is, of all those mentioned, the least practised by

present day motorists, which is, we think, a great pity. In the first place, the hand brake, which is commonly known as the emergency brake, is no emergency brake at all unless the driver is in the habit of using it, and secondly it is quite likely to be out of action without the driver knowing of the fault if it is persistently ignored. Many motorists never think of using the side brake except to hold the car when it has been brought to a standstill, and a brake that may be quite good enough for this purpose may have a totally inadequate retarding force if used while the car is in motion. Particularly should the novice get accustomed to using the side brake so that he may feel confidence in his left hand control of the steering and thereby be able to blow the horn and steer the car at the same time.

The question of when and how often to use the horn must be left to the discretion of each driver, but we do unquestionably urge that everyone should make a practice of always signalling what they are going to do quite irrespectively of whether there is anyone else on the road or not. When going round a corner a driver should blow the horn, and should make a hand signal in advance for the benefit of any car that may be behind him. If going to the right he should hold out his right arm stiffly horizontal, and if going to the left he should wave the overtaking car to pass by a sweeping motion of the hand, made with the arm sloping downwards. If he is going to stop, the arm should be held out with the forearm vertical. These are simple signals, and no one should omit to use them ; to do so is a breach of elementary motoring etiquette, and is courting danger.

Just as a driver should practise signalling his intentions, so should he take heed of the signs that are provided along the road for his benefit. It is unfortunately true that the nature of the danger against which the same sign is provided varies all the way from real to imaginary, but we cannot accept that as any justification for a motorist overrunning a signal. For our own part we should like to see every road in the country recognised either as a main road or as a side road, and the junction of every side road into a main road guarded by a uniform danger sign. Every motorist naturally thinks the road he happens to be on at the time is the only main road in the district until he finds himself rushing across a real main road and is impressed by the facility that this affords for collision. If the roads were sorted out as we suggest there would be no such danger, for the motorist would have a right of way on his own road until he came to a danger sign, and that danger sign he would be forced to recognise as one that he absolutely must not ignore. As we have said, however, we think that the principle to be advocated is that the motorist should take heed of signs as they stand—if incidentally he can get them rearranged into a better system, so much the better.

"Keep to the left at corners." There is absolutely no justification for a collision at a corner between one car and another that is on the wrong side of the road. It

can quite easily happen, and the only way to eliminate the risk is to keep well to the left—and go slow; it is also always as well to assume that the driver of an approaching car cannot hear your horn round the corner, and that you are yourself deaf to any such signal from him.

On the open road the question of collision is not one that should come within the scope of such maxims as these, and we rather regret that we should have seen cause to include the seventh maxim at all. We have, however, been so unfavourably impressed of late by the manner in which a seemingly increasing number of motorists stick to the crown of the road in the face of an approaching car, that we feel the advice is far from unnecessary if only as a measure of self-protection. Whether it is that those who thus transgress the first principles of driving do so out of sheer thoughtlessness or mere funk we are hardly prepared to say, but the fact remains that it is very unpleasant if, having given way to the normal requirements of the road, one finds that the approaching car hangs on to the crown and flashes by with scarcely an inch to spare.

When overtaking other vehicles, the rule of the road says pass on the right. Our particular version of this is "refuse to pass on the left." No good driver ever thinks of disregarding the rule of the road in this respect in the ordinary way, but the increasing tendency on the part of cyclists and some other road users to invite motorists to pass on the left by stolidly adhering to the centre of the road is very apt to breed a dangerous custom, for there is sure to come a time when some silent invitation of this sort is misunderstood, and an accident, for which the motorist will be to blame, ensues.

In much the same category is our eighth maxim, which warns drivers against assuming that anyone hears the

horn. On the whole we are rather inclined to believe that the best driver is he who blows the horn least, by which we mean that his driving is such that he seldom or never has to clear anyone else out of the way. We have italicised the word "assume," and we leave it to the driver to decide when it is a case of assumption, for what we mean is, of course, that no driver should presume upon the fact of his having blown the horn to take a line of action that still seems fraught with obvious risk. It is another case in which the motorist would certainly be held to blame, and if for no other reason than this, particular care is worth while. It should at any rate be a matter of common knowledge by now that a motor horn is not nearly so easily heard, particularly by the driver of another car, as some people fondly imagine.

Lastly, we conclude with the tenth maxim, which includes all the rest and might, therefore, be thought either superfluous or self-sufficient. But we have a reason for including that simple sentence, "accidents must be avoided," for we know that the remembrance of this and this alone will deter a man from taking a chance when other warnings fail. Nobody wants to be the cause of injury to a fellow man, and an accident loses nothing of its horror in the reflection that it was the other man's fault. Motorists must remember that they are the fore-runners of the future, and they must not assume that those of this generation who are less fortunate than they, either are or ought to be alive to the exigencies of this modern locomotion. No doubt pedestrians should look where they are going and children should be kept off the streets, but the fact remains that this desirable state of affairs does not yet exist, and under the circumstances it is the unexpected that is likely to happen.

* * * * *

PRIVILEGES FOR MOTORISTS VISITING THE U.K.

At last the regulations made by the Treasury and providing for the exemption from inland revenue duty of motor cars belonging to visitors to this country who are not staying more than four months have now been issued. We print them in full below, and also comment upon them in a leaderette on p. 903.

The Lords Commissioners of His Majesty's Treasury, in pursuance of Section 86 (7) of the Finance (1909-10) Act, 1910, and of Section 2 of the Rules Publication Act, 1893, hereby certify that on account of urgency the following regulations should come into immediate operation, and accordingly make the following regulations to come into operation forthwith as provisional regulations:—

1. It shall not be necessary for an excise licence to be taken out or for any duty to be paid under section eighty-six of the Finance (1909-10) Act, 1910, in respect of any motor car brought into the United Kingdom by a person usually resident abroad, and making only a temporary stay in the United Kingdom, if the motor car is not kept in the United Kingdom for a period exceeding four months from the date of registration as hereinafter defined.

2. This exemption shall not apply unless, as evidence of registration, either the international travelling pass issued in respect of such motor car, duly stamped and dated by the customs and excise

officer, or, if no such pass has been issued, the copy of the entries relating to the motor car in the register of the registering authority furnished to the owner under Article III of one of the Motor Car (Registration and Licensing) Orders, 1903, applicable to England, Scotland, and Ireland, respectively, is produced on demand,

a. in England (including Wales) or in Ireland, to any duly authorised officer of a county council or county borough council, or

b. in Scotland, to any officer of customs and excise.

3. For the purpose of these regulations the date of registration shall mean—

a. in any case where an international travelling pass is produced, the date of registration inserted in the pass by the officer of customs and excise at the port of landing, and

b. in any other case, the date upon which the motor car was registered by the council of a county or county borough as shown upon the copy of the entries in the register; or if the car was brought into the United Kingdom in a year subsequent to the year in which the car was so registered, the date on which the car was brought into the United Kingdom in that year, as attested by endorsement upon the copy of the entries by the chief officer of customs and excise at the port of landing, and the chief officer of customs and excise shall upon application at the time of the landing of the car endorse and sign the said copy.

4. These regulations shall have effect as from the first day of May, 1910.

America and International Touring.

AMERICAN motorists have been quick to see the advantage of the new International convention which renders touring in Europe so easy, and "Uncle Sam" is regretful that the present chaotic state of the laws regarding motor cars in the United States makes it impossible to join the Convention. In that enlightened country each State has its own laws, and while some have entered into reciprocal arrangements with adjoining States, others

have not, and these latter insist upon visiting motorists re-registering when they are unfortunate enough to cross the border.

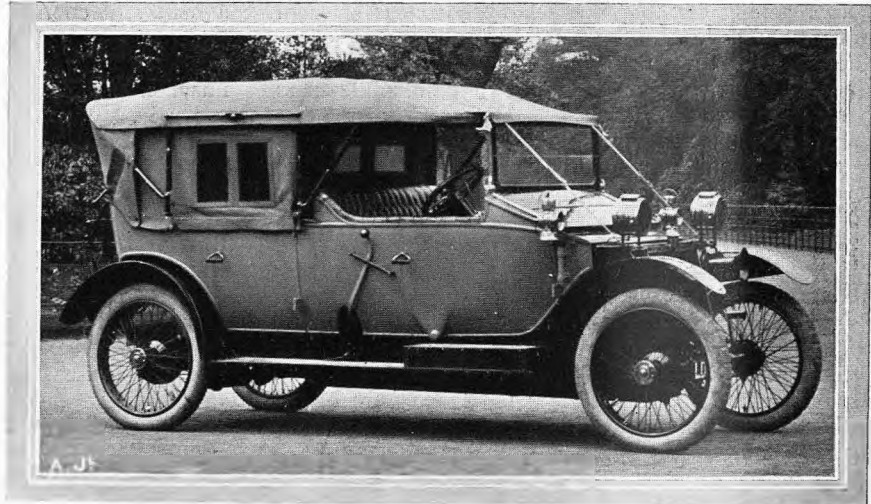
Naturally this state of affairs causes a good deal of dissatisfaction among touring motorists, and as a result some States are practically boycotted. The American A.A. are, however, going to make another strenuous attempt to get a Federal Registration Bill passed by the Congress and Senate.

IDEAS IN COACHWORK.

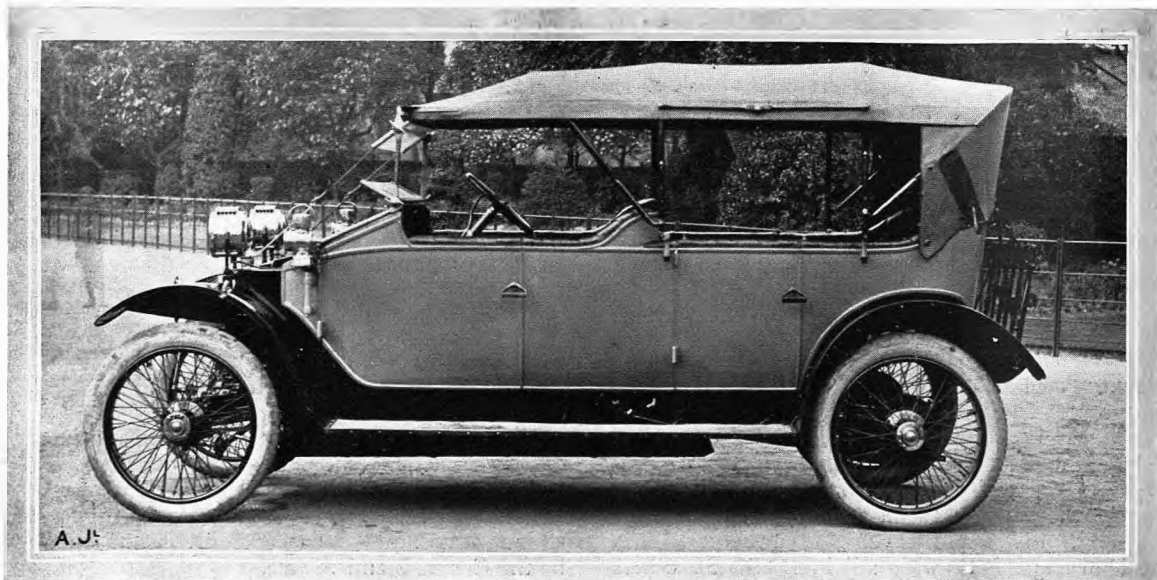
A LANCHESTER TORPEDO PHAETON.

No better example of what may be described as the modernising of Lanchester cars could be desired than is afforded by the accompanying illustrations, which show one of the latest 28-h.p. six-cylinder chassis fitted with a five-seated torpedo body. When we use the term modernising it is perhaps only fair to qualify the remark by pointing out that the Lanchester Company have always specialised in high-class coachwork, and have for a long time adopted some of the features that essentially belong to the modern torpedo. On the other hand, their cars have not always suggested even a little resemblance to the features that have made the orthodox bonneted automobile a deservedly popular machine with the motoring public. There is no doubt that some bonnets are distinctly smart and give a finish to the car that is lacking in a flat front. It is just this sort of finish that the Lanchester Co. have managed to suggest in the design of coachwork illustrated above. The general lines of the fore part of the body, especially when the hood is up, give an appearance of lightness that is often otherwise lacking. Perhaps the most important point is the special design of side door, which, in conjunction with the sloped-back wind-screen, produces what is in effect a cab dash. It will be observed that the side doors to the front seats are hinged right forward, and are of extreme width. Part of their upper edges lie adjacent to the lower part of the wind-screen, which forms an extension of the dashboard and serves to bring the front glass close up to the steering wheel. In this position it not only

gives a better appearance to the car, but is far more efficient as a protection to the driver. Its position determines the length of the hood, which thus stops short well behind the front wheels.



The coachwork itself is an excellent example of the flush-sided torpedo type. It will be noticed as a minor detail in construction that the brake-lever has been placed outside the body, its graceful curvature being rather more suggestive of an ornament than a mechanical appliance. It will be observed that Rudge-Whitworth wire wheels are used—indeed wire wheels have always been associated with Lanchester cars—and it will be admitted by most people that they smarten the appearance of any machine. The hood is capable of being extended single-handed, and has been provided with special curtains that have large side windows in them.

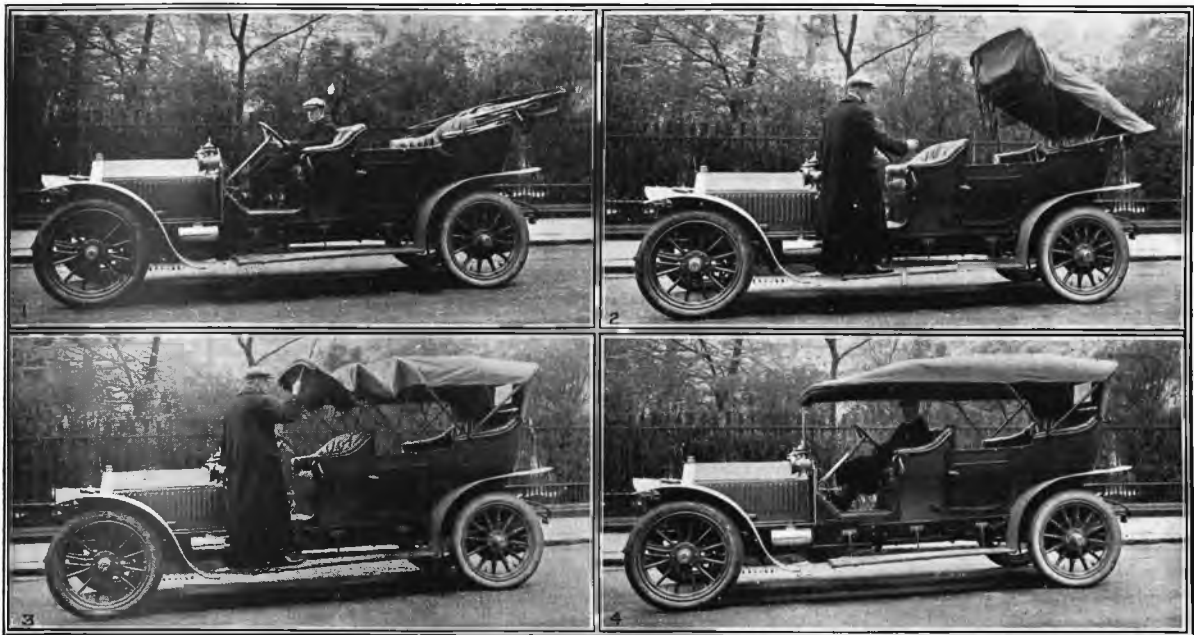


ACCESSORIES OF THE WEEK.

THE KOPALAPSO HOOD.

ENGLAND, unlike some places on the globe that have their rain and their sunshine at stated periods, is so very evidently the nursery of some juvenile clerk of the weather, whose especial delight it is to play with the rain tap, that to go motoring in an open touring car without a hood is gratuitously courting the discomfort of a wetting. There was a time, of course, when hoods and wind-screens were looked upon rather askance by a community of enthusiasts who braved the elements in heavy top coats and enjoyed a distorted view of the surrounding scenery through the ill-ground glasses of goggles. In general

that can be pulled into place in an instant without inconveniencing any of the other passengers is a godsend, for it makes it worth while to slip it up and down like an umbrella as occasion requires. The average driver who is addicted to the pleasures of an open car generally dislikes driving with the hood up, and he is therefore all the more likely to study the comfort of other passengers if he feels that the hood can be put down at a moment's notice whenever the rain gives over. One of the latest "one man" hoods that has been brought to our notice is the Kopalapso introduced by Donne and Willans. It is



(1) The Kopalapso hood down. (2) First stage, the Kopalapso hood going up. (3) The Kopalapso hood extended. (4) The Kopalapso Hood up.

these days have passed, for we can scarcely imagine any private owner deciding to have an open touring car without a hood. But there are hoods and hoods, for in the place of what we shall soon regard as the old-fashioned contrivances, are coming into existence some excellent designs especially adapted to one man operation.

One of the objections to an ordinary hood is that it requires two pairs of hands to put up or take down, and the consequence is that it is seldom thought worth while to put the hood up for a shower until the "passing" thereof is seen to be quite indefinitely delayed. A hood



Motoring Dangers in the New Forest.

FROM time to time we have drawn attention to the dangers which beset motorists while passing through the New Forest by reason of the ancient "rights" allowing cattle to depasturise where they will, and even to take a siesta in the middle of the road. Many motorists appear to be unaware of these conditions, which have led to several bad accidents, and the Hampshire A.C.

worked somewhat on the "lazy-tong" principle, and can really be put up in one instant by one man, for all that is necessary is to take hold of one of the straps attached to the front edge of the hood and to pull it. The hood rises and extends automatically as shown in the accompanying photographs, and when erected it will be observed that it leaves the side entrances to the car remarkably free from obstruction. The front straps are pulled down tight on to the dashboard, and the strain is taken by bands along the roof of the hood that terminate in straps fastened to the back of the body of the car.



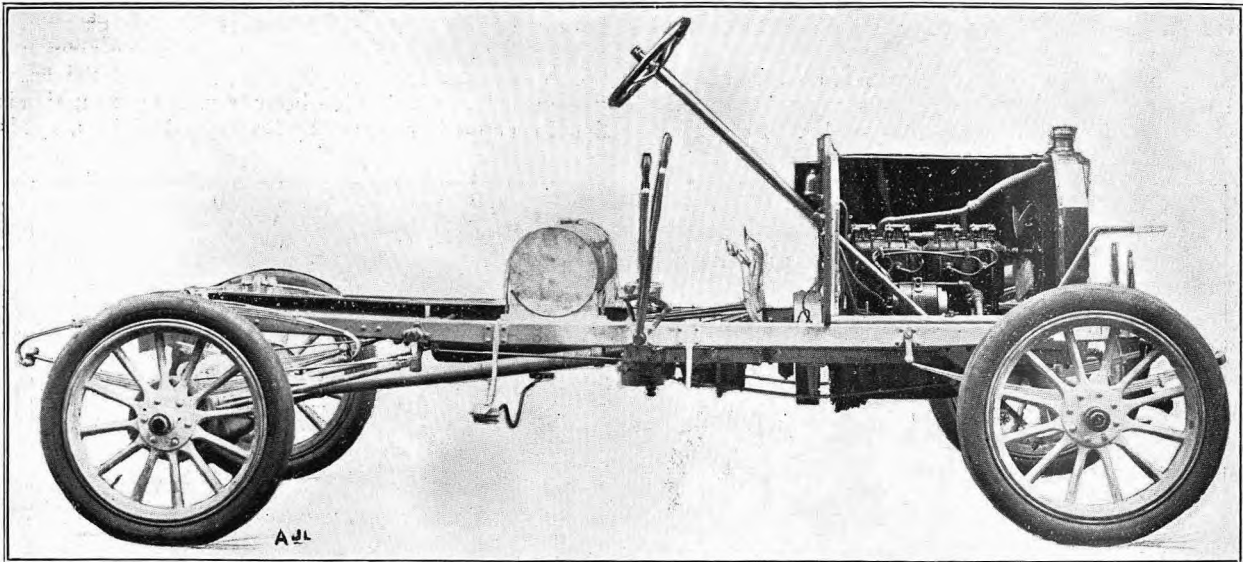
have therefore issued an appeal for great care to be exercised when passing over the roads from Romsey to Totton, Ower to Lyndhurst, Cadnam, Ringwood and Fordingbridge, Totton to Lyndhurst, Lyndhurst to Beaulieu, Brockenhurst, Lymington and Bournemouth. This is particularly necessary at night, when, attracted by the brilliancy of the headlights, the animals often stop and stand still in the middle of the road.

CHASSIS CONSTRUCTION.

THE BEDFORD "FIFTEEN-EIGHTEEN."

It is necessary to regard the construction of the Bedford chassis, which is one of the products controlled by the great motor Trust in America, in the light of cars built to a fixed price, and one that in this instance happens to be a very low figure. The mechanism differs from that on

tions on this car include a long connecting-rod that passes across to the near-side steering-head instead of lying longitudinally under the off-side member of the frame. The result of this simple and apparently quite effective arrangement is to permit of a well-raked steering-column



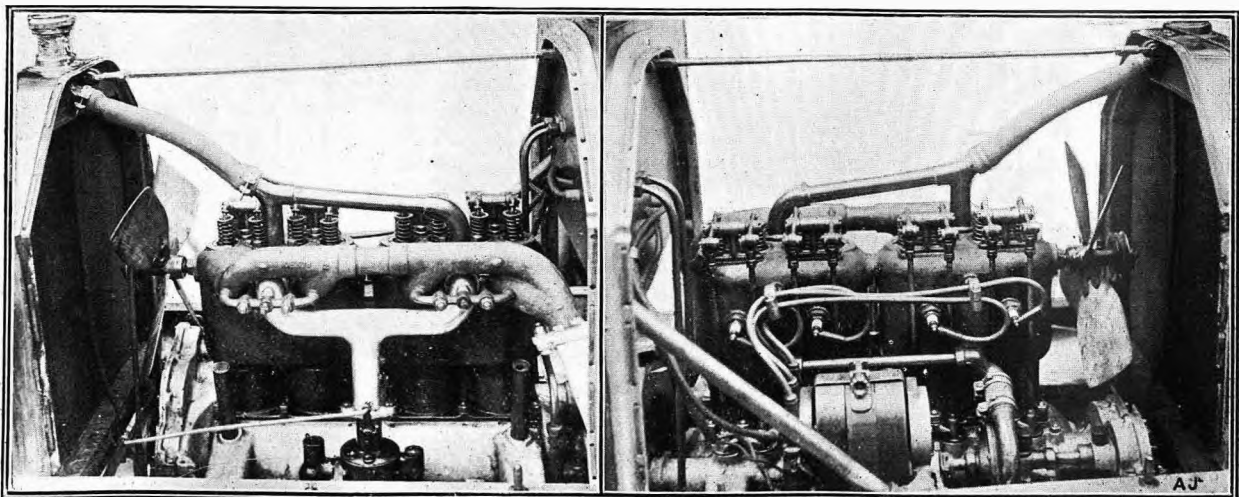
"Auto." (Yellow Cover) Copyright.

Side view of the Bedford chassis. The full-elliptic springs for the back axle should be noticed.

the majority of cars only in respect to having an epicyclic change-speed-gear that is partly operated by foot and partly by hand. For the rest, the Bedford car is a 4-cyl. live-axle vehicle.

One or two points in respect to which it affords an interesting example of special construction are worthy of immediate reference; for instance, the steering connec-

tion on a chassis having a comparatively short wheel-base without in any way curtailing the body space or the accommodation provided in the back seats. The arrangement is one to which we have all the more reason for drawing attention, inasmuch as the small cars of the day are necessarily of short wheel-base, and it is often an obviously difficult matter to satisfactorily arrange the

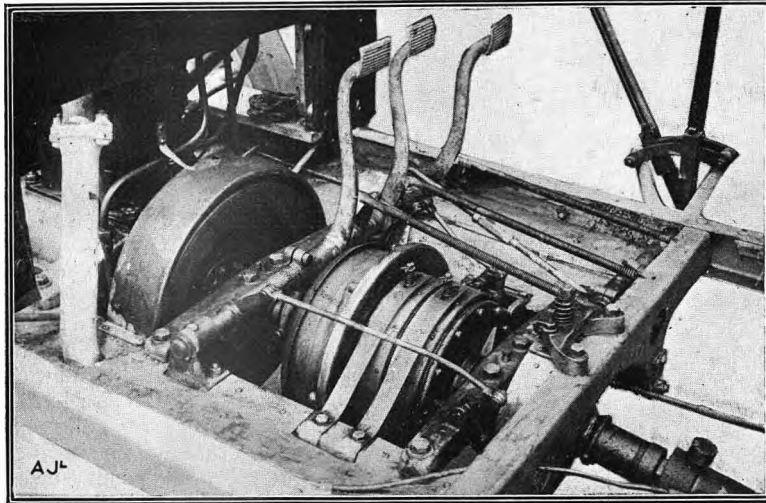


"Auto." (Yellow Cover) Copyright.

Two views of the 4-cylinder Bedford engine in place on the chassis. On the left the carburettor can be seen, and on the right the magneto with the circulating-pump.

steering-column in the orthodox way. The system adopted by the constructors of the Bedford car appears, as we have said, to be an entirely justifiable and very satisfactory expedient.

Another detail, equally important from the point of view of short wheel-base chassis, is the suspension of the



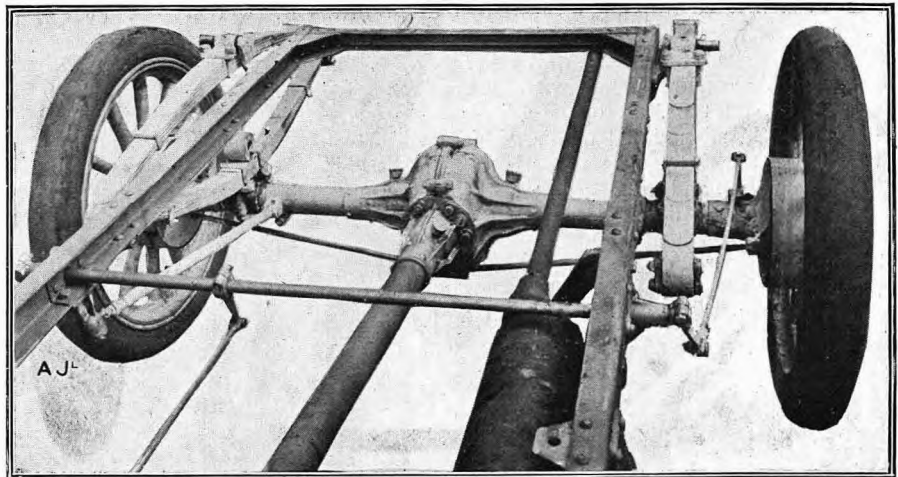
"Auto." (Yellow Cover) Copyright.

View of the epicyclic change-speed-gear on the Bedford chassis. The low speed and reverse are introduced by pedals, the high speed by a side lever.

frame above the back-axle by means of full elliptic springs. Compared with semi-elliptic springs of the same length and quality, a full elliptic spring gives twice the deflection for the same load, since the upper member bends equally with the lower, and the lower will bend no less than it would as a semi-elliptic spring merely because the load happens to be applied through the agency of a similar member. On a short wheel-base, it is an important consideration to be able to give as much travel to the springs as possible in order to save the passengers from the sense of perpetual contact with an uneven road. The occupants of the rear seats are necessarily immediately over the back-axle in a short wheel-base car, so long as the suspension is of the kind ordinarily adopted in modern motor car construction. The Bedford chassis has its back-axle anchored to the frame by two radius-rods mounted universally in ball-socket brackets. These connections transmit the thrust from the road-wheels to the car frame, and take any slewing action caused by one of the road-wheels independently striking an obstacle. Although not hinged for lateral movement, they are in no way designed to take side strains which come directly upon the springs, and are resisted by the strength of their leaves. In a larger car it would doubtless be considered good practice to make special provision for the relieving of the springs themselves of this stress. The attachment

of the springs of the Bedford chassis is simple and apparently effective. They are fastened by a split bearing bracket to the axle-casing, and thus have the advantage of floating on that member; their upper halves also ride on pins that project from the side-members of the main frame, so that they are quite free from extraneous stresses such as might interfere with their natural resiliency. Grease-cups are provided for the lubrication of both points of attachment, and it is obviously a very simple matter to remove one of the springs from the chassis if it should be necessary to do so. The road-wheels are fastened direct to the live-axle-shafts, which are themselves supported on long roller bearings, in which the rollers are formed by strips of flat steel wound into a helix; this is a form of bearing which has gained considerable popularity in the United States, and appears to have given satisfaction on such cars thus fitted that have been brought over to this country. A peculiarity in connection with these rollers is that when they are new they have a very unfinished appearance, whereas when they have been in use for some time they considerably improve in this respect.

The engine and change-speed-gear are carried on an under-frame, which, like the main frame, is made of channel section steel. To this under-frame the engine is bolted direct through four brackets. The gear-box, on the other hand, is carried after the manner of those of the epicyclic type on two bearings, which are held up by bolts to transverse-members bridging the longitudinal girders of the under-frame. By undoing these bolts and releasing the coupling behind the fly-wheel, and also the



"Auto." (Yellow Cover) Copyright.

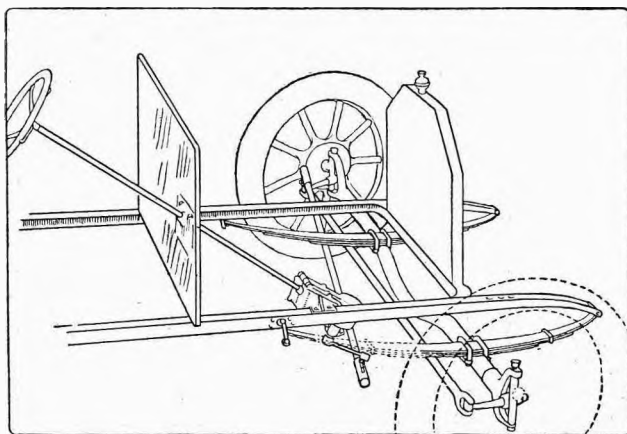
View of the live back axle of the Bedford car. Also showing the method of attaching the springs to the frame.

universal-joint at the other end of the propeller-shaft, the entire gear can be taken down *en bloc* from the chassis.

The epicyclic mechanism employed on the Bedford cars is of standard design and calls for no special description. The gears are brought into action by means of two band-brakes and a cone-clutch. The band-brakes are operated by pedals, and introduce the low speed and

the reverse, while the cone-clutch is engaged by a side lever and introduces the direct drive. There are only these two forward speeds and the reverse.

The Bedford engine, which has a bore and stroke of 95 mm. by 95 mm., has, as its leading characteristic, the overhead arrangement of the valves, which are operated by rock-levers and vertical push-rods from a single cam-shaft. It is a simple matter to remove any or all of the valves for inspection, for they may be taken down complete with their cages by releasing the rock-levers and undoing the wing-nuts that hold their cages in place. The arrangement is one that makes for a simple



"Auto." (Yellow Cover) Copyright.

Sketch illustrating the steering connections on the Bedford chassis, showing how the steering connecting-rod is taken across to the near-side steering head so as to enable a well raked steering column to be used on a short wheelbase chassis.

and accessible design, although there is the possibility of a broken valve dropping into the cylinder, but this is, we understand, to be remedied in future models. The ignition-plugs are inserted through the cylinder-walls on the same side of the engine as the magneto. This is of the low-tension type, but operates in conjunction with a non-trembler coil situated on the dashboard. This coil is provided for further use with a battery so as to provide switch starting, and the distributor, which is mounted on the magneto, is likewise employed for both circuits. The magneto is held in place by a steel strap, and an external coupling in the drive facilitates its bodily removal from the frame.

On the opposite side of the engine is the carburettor, which is remarkable, as so many American carburettors

are, for the nature of its adjustments. There is an adjustment for the jet, and an adjustment for the strength of the spring that controls the valve of the main air passage. Both are readily accessible, and are apparently intended for use by the owner of the car. The carburettor can also be readily taken down for inspection by undoing two set-screws which serve to secure the base of the float-feed-chamber to its lid, which is cast in one piece with that part of the induction-pipe containing a throttle-valve. The float, which regulates the petrol-feed, is made of varnished cork, and the throttle-valve, which controls the admission of the mixture to the cylinders, is of the butterfly type.

Circulation of the cooling water is effected by means of a large centrifugal pump, and the circulation of the oil by means of a rotary gear-wheel pump. The oiling system of the engine, like most other details, is simple and straightforward. The lower part of the crank-chamber is an aluminium casting having a false bottom arranged in the form of troughs that lie immediately in the paths of the cranks; each connecting-rod big-end carries a scoop, which dips into the trough and thus delivers oil to the big-end bearings as well as splashing it up on to the crank-shaft bearings, cylinder walls, and gudgeon-pins. The oil level in the troughs is maintained constant by the action of a pump, which is continuously drawing lubricant from the reservoir in the lower part of the base-chamber and delivering it into the troughs. The troughs themselves are also continuously overflowing back again into the sump, so that as long as the pump is in operation, which is indicated to the driver by means of a tell-tale on the dashboard, there is a continual circulation of oil in the path of the cranks. A level cock is fitted to the crank-chamber in order to serve as an indication of the amount of oil required when the sump is being replenished.

A foot-brake, in addition to the side-brakes on the hubs of the rear wheels, is provided behind the gear-box, but in common with all epicyclic change-speed mechanisms, the reverse is equally available as a brake if required. All the brakes are of the fabric-lined type, the foot-brake being an external band-brake and the side-brakes being internal band-brakes.

The road wheels are fitted with 30 in. by 3½ in. Goodyear tyres, and have the usual detachable clinch that characterises the American method of fitting tyres. It is a system which is a great time saver over our own ordinary method, and although the majority of tyres available in this country will not fit American rims until European tyre rims are fitted to the cars, the wheels can be re-modelled to take European tyres at an extra charge of about five pounds.



Motor Traffic in the Lake District.

RECENTLY there has been a great increase in the amount of motor traffic in the Lake District, and several of the parish councils are petitioning for the rounding off of corners and such like road improvements. At a recent meeting of the Cockermouth Rural Council, for instance, proposals were considered regarding improvements at six places on the coach road between the Vale of Lorton, past Crummock and Buttermere Lakes, to Honister Pass, and notably at Horse Point, where Rannerdale Fell juts into Crummock Lake. Complaint was also made respecting the road along Bassenthwaite Lake to Ouse Bridge. The matters were referred to a committee.

International Road Congress.

AT a meeting a few days ago of the English-speaking delegates at the International Road Congress, a resolution was unanimously passed expressing the desirability of holding the next Congress in 1913 in London. It was suggested that the Permanent Commission should postpone the consideration of the next place of meeting until it could be ascertained whether the British Government would join the Association and extend an invitation to visit London. Twenty-seven Governments have joined the Permanent Association and contribute annually to its funds, sums ranging up to £440 in the case of Germany and £600 in that of France.

HOW TO KNOW THE ALPS.*

AN ounce of practice is worth a ton of theory in the realities of life, and this fact, in "The High Roads of the Alps," the author, Mr. C. L. Freeston, has set himself out to prove, with a success that can only be appreciated by those who have traversed the paths, the description of which he handles so well. The keen observation and painstaking attention to practical detail of the travelled man in taking notes by the way so that others may follow with greater facility through the mountain passes which he has learned to know and to love so well, is the keynote throughout.

The book is something more than a guide-book; it is a companion, although it certainly contains all that a guide-book should and so seldom does. It is a practical book for motorists particularly, and the author, being a motorist himself, realises only too well those apparently trivial details that mean so much to the enjoyment of a motor trip, but have little or no significance to the passenger by other means of locomotion. When you have read the book you will yearn to spend your own holiday next year touring over the passes of the Alps, and the inspiration comes not from any flowery description of wondrous scenery, such as we all know to exist there, but from a feeling that the preliminaries of the undertaking and the undertaking itself will all be quite simple and enjoyable, and not such as to call for the resolve and experience of an explorer about to investigate the untrodden lands of Thibet. As Mr. Freeston himself says in introducing the subject of his work: "Although the tide of eastward travel, whether from Great Britain to the Continent or from America to Europe, has increased greatly during the last few years, there are still vast numbers of people who know little or nothing about locomotion in the Alps; they harbour merely hazy notions on the subject, and these may be reduced to the following definitions: firstly, that the Alps are a Swiss monopoly; secondly, that for the most part they offer a perennial exercise ground for acrobatic Englishmen who are more than half mad; and thirdly, that the only alternative to scaling a peak by the aid of a rope, ice-axe, and crampons, is to build a tunnel and to rush through it by train."

This is plain talking but vastly true, and yet, once more to quote the author of our interesting book, "The crossing of an Alpine pass is beyond all fear of contradiction, the most interesting, the most sporting, and the most exhilarating purpose to which an automobilist can devote his car A pass obviously suggests ascents and descents of a formidable character, but so unaccustomed is the non-Alpinist to excessive heights, that in all probability the first if not the only idea which the mention of a pass conveys to his mind is that of steepness of gradient. If he happens to know that the highest

road in Great Britain—namely, Cairnwell in Scotland—has an altitude of 2,200 ft., and he is then told that one may rise by road to a height of 9,041 ft.—namely on the Stelvio Pass—he is altogether unlikely, so far as my experience has shown, after conversations with many who have not travelled in the Alps, to picture this extraordinary elevation as a matter of unusual mileage, but will at once begin to think about gradients of extraordinary severity. His mind cannot conceive how such a height can be obtained without terrific effort; and if he has tackled Porlock Hill in Somerset or any other monstrosities of British road building, he will probably imagine that to compass a height of several thousand feet, to say nothing of the Stelvio itself, is merely a case of Porlock magnified a good many times, and therefore altogether unfit for sane mortals to attempt.

"There is no fact, however, in connection with Alpine motoring which needs to be more forcibly iterated and



FROM "THE HIGH ROADS OF THE ALPS."—A typical Tyrolean town—Klausen, on the Brenner Pass (p. 141).

* "The High Roads of the Alps," by C. L. Freeston, F.R.G.S. (London: Kegan Paul. 10s. 6d. net).

reiterated than that of the entire simplicity of an ascent so far as mere gradient is concerned. There are gradients on hundreds if not thousands of English roads which are never seen on Alpine carriage roads of the first order. The necessities of the case have involved skilful surveys and most scientific construction, and it would be

dentally I may mention that gradients on the Continent are usually referred to in terms of percentage and not according to our English measure. And what is the average gradient of an Alpine pass? To the English motorist it may sound incredible, but the fact remains that a gradient of 8 per cent. is rarely exceeded, that is to say, what we should call 1 in $12\frac{1}{2}$. Their average, however, is considerably lower, and, without further labouring the point, I can only say once more that in this respect there is absolutely nothing to fear. Abrupt alterations of gradient, too, it should be mentioned in passing, are rarities; as a matter of fact, I cannot remember the existence of any whatsoever. The element of surprise, in short, which is the chief and almost only source of road accidents all the world over, is less to be reckoned with on the skilfully made roads in high altitudes than anywhere else. Such surprises as greet one are of a totally different kind—namely, the sudden unfolding of some wondrous panorama or complete change of scene."

And then Mr. Freeston proceeds to give other useful and interesting information, drawing attention to the prime questions of importance relating to the type of car that may be most satisfactorily used in such trips. The bulk of the book is given up to descriptive itineraries of all the principal passes, and each itinerary contains a summarised table of altitudes and distances, all of which have been compiled from official figures that must have involved a tremendous amount of labour to obtain.

Charming illustrations are sprinkled generously throughout the pages, supplemented by some excellent maps, in which clearness has been made the dominant feature. Altogether the work is one that no motorist who should ever contemplate taking his car south should be without. It will repay a study of its pages a hundredfold.



FROM "THE HIGH ROADS OF THE ALPS."—The substantial parapet on the Aprica Pass (p. 213).

impossible to find a solitary hundred yards of road on the main Alpine passes which a six horse-power voiturette could not surmount.

"On English roads one may find gradients of 1 in 6, while on by-roads the figures are often considerably worse. One in 6, in round figures, is 17 per cent., and inci-



FROM "THE HIGH ROADS (OF THE ALPS)."—A curiosity in road construction—the "Hairpin" tunnel on the new Falzarego Pass (Dolomites) (p. 165).

Races, Records & Trials.



FRENCH INDUSTRIAL VEHICLE TRIALS.—Some of the competing machines. A Peugeot and two Delahayes on the road at Meulan during the first stage of the trials.

French Industrial Vehicle Trials.

AFTER two days spent in weighing and inspection of the machines, the 29 vehicles left Versailles on Friday of last week for the first stage of 122 kiloms., the two buses making a detour to increase their total to 155 kiloms. Each day up to September 18th the vehicles will make

a round trip of similar distance from Versailles. During this week petrol will be the fuel used, next week alcohol will be used, and during the last week benzol.

Agricultural Motor Trials.

AFTER a week of practical work in ploughing, driving, threshing, and other machines, and hauling



THE ROYAL AGRICULTURAL SOCIETY'S TRIAL OF AGRICULTURAL MOTORS AT MANOR FARM, BYGRAVE, BALDOCK, HERTS.—One of the competing machines—the Ivel—ploughing a 5-acre patch. This machine accomplished the work in 7½ hrs. and a similar one in 8 hrs.

loads along the road, the trials of agricultural motors, held by the Royal Agricultural Society, came to an end on Monday last, when the gold medal was awarded to Messrs. J. and H. McLaren, of Leeds. Throughout the trials, the cost of fuel used, the cost of labour, and various points in connection with the running of the various machines were noted by the judges, Messrs. Worby Beaumont and Baynton Hippisley, who will embody this data in a report. There were eight competing machines, two by Ivel Agricultural Motors, Ltd., one by J. and H. McLaren, one by Mann's Patent Steam Cart and Wagon Co., three by H. P. Saunderson, and one by Wallis and Stevens. The two Ivel and the three Saunderson machines were fitted with internal-combustion engines, and the others were steam driven.

The tests were carried out on the Manor farm of Mr. E. Cook, at Bygrave, Herts.

A 32-Mile Hill-Climb.

A HILL 32 miles long is hardly realisable in England, but from Mettupalayem, at the foot of the Nilgiri Hills, in "India's sunny clime," to Ootacamund, the road rises nearly 8,000 ft., and the average gradient for the distance mentioned is about 1 in 20. Such was the course over which, on July 10th, Mr. A. Barratt, an amateur motor cyclist, drove a 3-h.p. Durkopp, in 2 hours 23 minutes. This performance is believed to be a record, and is all the more creditable from the fact that the last 10 miles was traversed through a blinding wind-and-rain storm.



MOTOR BOATING.

B.M.B.C. Races at Ryde.

At the invitation of the Royal Victoria Yacht Club, the British Motor Boat Club got up a couple of races at Ryde on Tuesday week. The first was a handicap for boats under 17 knots, and the four starters were "Allegro," "Sayonara," "Valeta" and "What Next." The first named was late in starting, which spoiled her chances of success, and the result was a win by a narrow margin for "What Next," "Valeta" securing second place and "Sayonara" third.

Unfortunately, "Harlequin," "Dylan" and "Miranda" were unable to fulfil their engagement in the over 17 knot handicap, and "Columbine" and "Pierrette" were left to fight a duel. A very close race ensued, but within a mile of the finish "Pierrette" had trouble with a bearing and retired, leaving "Columbine" to finish alone. Mrs. Edgar Thornton, who gave a cup as first prize, will present it again for another race later on in the season.

Solent to London by Motor Boat.

At the conclusion of the motor boat racing in the Solent last week, Mr. L. M. Waterhouse decided to return to London in his Napier-engined cruiser "Major." At half past four on Sunday morning the anchor was weighed at Bembridge, and after a run of fifteen hours Rams-gate Harbour was reached at 7.30 p.m.

The next morning a start was made at half past six, and moorings were picked up at Kingston at 6.20 p.m. The passage of 200 sea miles was therefore made in a little under 27 hours.

A Long Run by "Juanita."

A SPLENDID performance was accomplished by Sir Everard P. Duncombe's Wolseley-engined launch "Juanita" on Tuesday. The owner, accompanied by Mr. Pesaro, started off from the "Enchantress" at 11.30 a.m., and made a non-stop run to Fowey, a distance of 160 miles, reaching there at 11 p.m. A stop was made there for the night, and on the following morning the journey was continued to Falmouth.

Brighton Regatta Postponed.

OWING to the boisterous weather, which has prevented many boats getting to Brighton from the Solent and elsewhere, it was decided on Monday night to postpone the annual regatta of the Sussex Motor Yacht Club to September 13th and 14th.

M.Y.C. Doings.

TO-DAY, Saturday, the members of the Hampshire A.C. will pay their annual visit to the Motor Yacht Club's "Enchantress," and arrangements have been made for the club launch to run between the ship and Hythe Pier from 2 p.m. onwards in order to convey the members on board. An extra programme of four races has also been arranged for the afternoon, including a tournament handicap and a handicap for the over 25 knot class.

M.Y.C. Regatta.

THE programme for the next regatta of the Motor Yacht Club on September 2nd and 3rd has now been arranged. It includes four races for motor boats on the first day, and five on the second day.



In the above photograph is seen the fine cup offered by Dr. Morton Smart, through the B.M.B.C. to the Motor Boat Club of America, for the winner of their Eliminating Race to choose the American representatives in the race for the British International Cup, which takes place off Larchmont to-day, Saturday. The British representatives are the Duke of Westminster's "Pioneer," Mr. Dan Hanbury's "Zigarella," and Mr. Mackay Edgar's "Maple Leaf II."

CURRENT ITEMS OF INTEREST.

Selden Patents Upheld.

ON the 11th inst. Judge Hough, at New York, gave a decision upholding the validity of the Selden patents, and awarding costs against the Ford and Panhard-Levassor Co.'s. In the event of this decision being appealed against, the Ford Co. must deposit a guarantee of £70,000 and the Panhard-Levassor Co. £3,200.

A Point Regarding Old Licences.

MOTORISTS who disposed of their cars previous to June 30th last will be interested to hear that counsel's opinion has been obtained by the R.A.C. on a point in connection with the taxes, raised by Mr. H. C. Thistleton. It was as to whether he was liable to pay the increased local taxation licence duty in respect of a car which he had sold prior to June 30th, when the new increased duty came into operation. An eminent counsel to whom the matter was referred gives it as his opinion that in view of the wording of the statute, payment of the increased duty could not be enforced.

Motor Cyclists for the Manœuvres.

THOSE motor cyclists who have been taking part in the Army manœuvres on the South Coast report having had a most enjoyable and interesting time, although in most cases the work was heavy. They were attached in pairs or fours to the various stations, and were engaged mostly in despatch carrying. The War Office have now asked the Auto-Cycle Union to supply a number of riders for the manœuvres in the Salisbury district from September 18th to 24th. Railway fares and 6s. 6d. per day is the allowance. Those who would like to serve should send their names and full particulars of machine to the Secretary, A.C.U., 18, Down Street, W.

A Six-Mile Limit at Killarney.

AN order has just been made by the Local Government for Ireland restricting the driving of motor cars to a speed not greater than 6 miles an hour on the road from Killarney between Loosecanaught and Derrycunihy Cottage, in the County of Kerry.

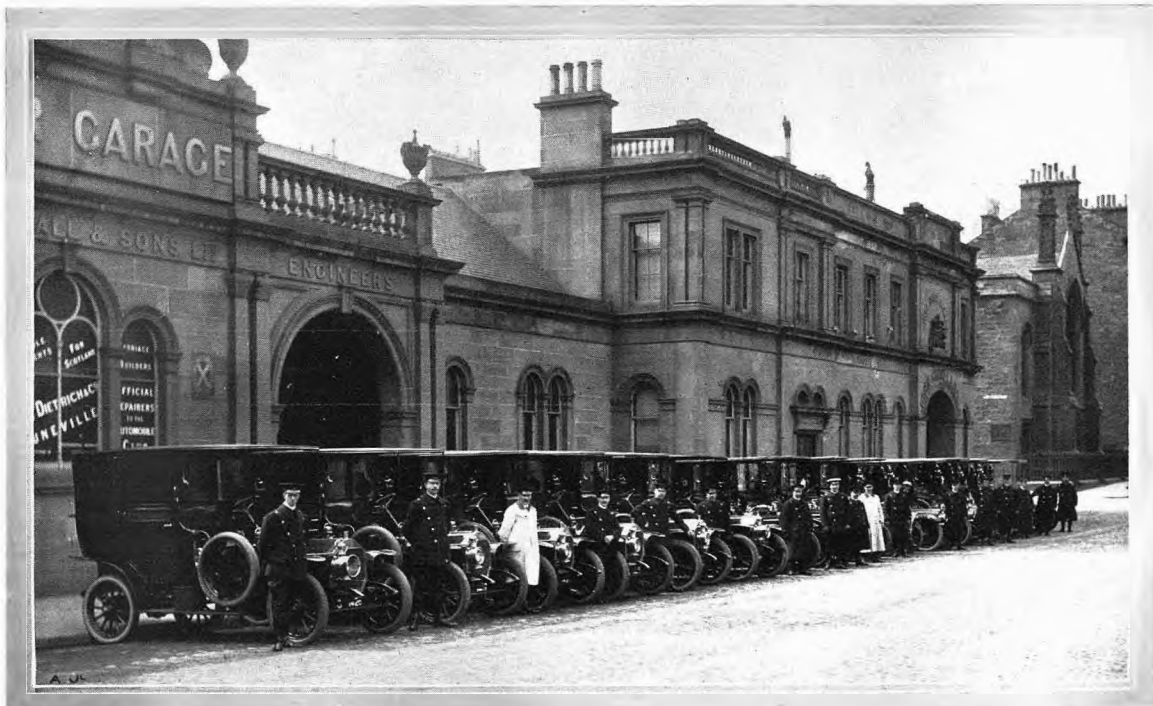
Motors in New York.

SOME interesting figures have just been published showing the number of motors registered in New York State. In the following table the first column shows the registrations during the first six months of each year, while the other column gives the figures for the year ending June 30th. It should be noted that 1908 was the panic year, when all businesses suffered:—

	Six months ending June 30th.	Twelve months ending June 30th.
1906	6,803	—
1907	8,456	15,376
1908	8,170	13,681
1909	13,441	20,684
1910	18,588	29,199

British Motor Exhibit at Brussels Burned.

IT is very unfortunate that on the first occasion when the British motor industry should have put forth a collective exhibit in a foreign commercial centre that it should have been destroyed by fire. From the opening of the Brussels Exhibition the various vehicles—Daimler, Napier, Humber, Vauxhall, Star and Ryknield—on view have attracted a great deal of attention from visitors who have come from all parts of the world. The exhibit occupied a prominent position and suffered severely, the cars to all intents and purposes being destroyed. It is to be hoped, however, that this catastrophe will not prevent similar collective exhibits from being forthcoming at future international exhibitions.



TAXICABS IN EDINBURGH.—A batch of 15-h.p. Napier taxis for service in the Scottish capital outside Messrs. Croall's well-known garage in Edinburgh,

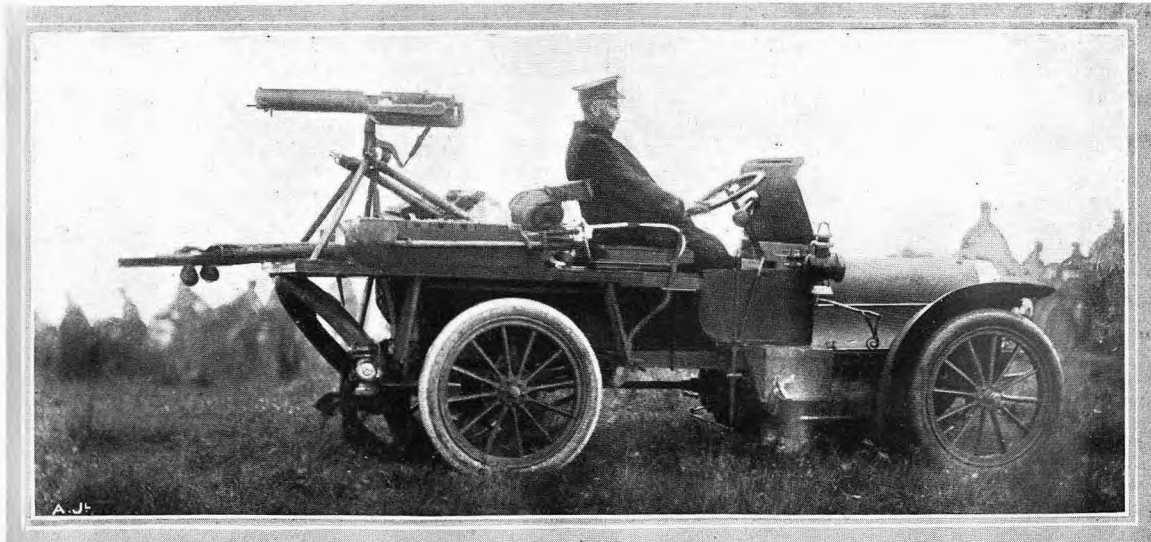
MOTORS AND THE ARMY.

MOTORISTS of every degree, but especially those whose patriotism leads them to devote a certain portion of their time accompanied by the services of their machine, to military service, should feel gratified at the successful work that has been accomplished during the recent Army manoeuvres, where once again the motor has had an opportunity of showing its worth in mimic war. Especially have the motor cycles come to the front, and on this matter the opinion of such a well-known military critic as Mr. H. F. Provost Battersby is not only of great interest but of considerable importance. Reviewing the subject in the *Morning Post* of August 15th Mr. Battersby writes as follows:—

“ But the success of the reconnaissance has been the motor, and the motor cycle especially. After three years of ardent advocacy it is consoling to find one's faith in the motor cycle regarded at last with favour and its possibilities in process of being recognised. The motor car also has done good work, but not always under war conditions. The movement of cars would be very much impeded on active service by the blocked and broken condition of the roads; very few of them could be taken with an army, and those few would be too valuable to risk on advanced reconnaissance work. Their movement can be readily detected from a great distance, and when

met on a road they stand very little chance of escape. They might legitimately be used to tow cyclists into touch with the enemy, and as moving supply depôts with pigeons and petrol. But the motor cycle suffers from none of the disabilities of the car. It can move along a track a few inches wide, and thus use roads along which troops are marching without discommoding them. It raises little or no dust, its speed is greater than the car's, it can go six times as far on the same amount of petrol, it is invisible behind hedges, can be hidden with the greatest ease, carried up and down stairs if necessary, can be made more silent than a horse's hoofs, and costs only about a tenth the price of a car of comparable power. It costs, indeed, no more than a horse to buy, and only about a twentieth part of a horse in forage for a much more considerable mileage.

“ The type of cycle one would like to see the War Office acquire for its own uses differs, however, from that which so far has been used in manoeuvres. A high horse-power is not essential; it adds to the original and running cost, and involves a machine too heavy to be comfortably handled. The machine to be desired would be between 2 and 3-h.p., about a hundred pounds in weight, with a silent and rapidly detachable engine. In case of a mishap it should be possible in a few minutes to transform the motor into an ordinary pedal cycle. The life of the rider and of his despatch may easily depend on this ability, which belongs to many motor cycles to-day. No speed over forty miles an hour is really wanted, but silence, ease of starting, indifference to weather, and reliability must be insisted on. The cycle which may be mistaken for a machine-gun in action is of not much use to the scout.”



AN ARGYLL MAXIM CAR.—For use with the Highland Cyclists Battalion during the recently concluded military manoeuvres in Scotland, the above Argyll pleasure car was temporarily transformed into a war car, as seen in our photo, and no doubt greatly helped the battalion in their part of the successful “defence” of the East Coast of Scotland during the manoeuvres.



Atlas for Central Europe.

VERY quickly the first edition of the “Continental” Road Atlas for Germany and Middle Europe was entirely exhausted, and a second edition called for. We understand from the Continental Tyre and Rubber Co. that this is now ready, and advantage has been taken of the opportunity to correct it and bring it thoroughly up to date. It contains key map, 46 different sections and 17 special maps, and covers the country from Copenhagen in the north to Milan in the south, and from Paris in the west to Warsaw in the east. The price is 4s. per copy, and motorists who intend touring in this territory would be well advised to immediately apply for a copy from the Continental Tyre and Rubber Co., 102-108, Clerkenwell Road.

Irish Road Congress Report.

SOME very useful information on the subject of road maintenance and repairs was included in the various papers contributed at the Irish Road Congress held in Dublin last April, and the bound volume of the proceedings on that occasion makes a welcome addition to literature on the subject of highways. Thirty-two papers were presented and discussed, and these are all given in full, as well as several communications which have been made since the Congress. Quite a national tone is given to the book by the fact that it is printed in green ink.

The book, bound in serviceable green cloth, is published at 1s. (1s. 6d. post free) by Messrs. Eason and Sons, Ltd., Dublin and Belfast.

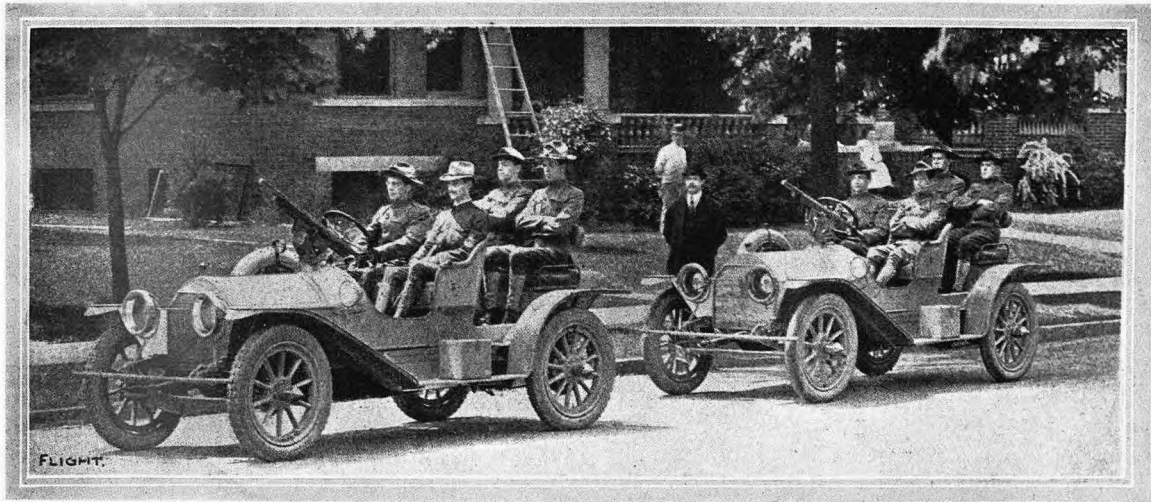
MILITARY MOTOR CARS FOR FIGHTING AIRSHIPS.

FROM the early days of the introduction of the horseless vehicles in 1898, experiments with quick-firing guns mounted on motor cars have been carried out under the supervision of Major Davidson by cadets of the North-Western Military Academy. Some very interesting as well as valuable tests of the automobile as a balloon destroyer have been carried out, and latterly experiments in aiming at airships have been made.

With a 1909 Cadillac "thirty," purchased in the summer of 1909, preliminary experiments were made. Two more Cadillac cars of similar horse-power were purchased by the Academy last spring in order that the

a crew of four cadets in each completed the strenuous run of the Glidden tour from Cincinnati to Chicago via Dallas, Texas. Field conditions were maintained, and country traversed which would be a tax on even horse-drawn artillery. The carriages were driven and operated by amateurs, and at the completion of the 2,850 miles the machines were found by careful examination to be in perfect running condition, and aside from the scars, due to a run through partially roadless country, were ready for immediate field service.

These details, together with some photographs which we reproduce, have just been published in our American



The North-Western Military Academy airship attacking outfit.

experimental work might be more thoroughly carried on. These automobiles, of stock chassis, are made to seat four cadets, and mount a Colt automatic rapid-fire gun over the engine. The guns of .30 calibre deliver automatically 480 shots a minute, having a sighted range of 2,000 yards. Tents and blankets are strapped on the rear of the car, while the personal clothing, cooking utensils, &c., find a place on the step, and compartments, made for carrying 5,000 rounds of ammunition, are arranged under the rear seat.

With this extra equipment, totalling between 400 and 500 lbs. in weight, this motor corps of two machines with

contemporary, the *Scientific American*. It adds that the results of the experiments clearly demonstrate that not only would the automobile be a ready but effective means for keeping in touch with moving aerial craft, where roads are in normal condition, but that the rapidity of fire would be such that military automobiles must be reckoned with as weapons against airships and aeroplanes.

The experiments are to be continued through the summer at the different army manoeuvres, and much valuable information will be in the hands of the War Department at the close of the season's work as to the value of the automobile as an adjunct to the military service.



Dust Observers in Hants.

SEVERAL complaints having been addressed to the club regarding the dust raised by motor cars when passing through Lyndhurst, the Committee of the Hampshire A.C. have decided to station two observers there during this month to report on the traffic and the conduct of such traffic. Incidentally, they have also decided to contribute £5 to the Lyndhurst Watering-Cart Fund.

International Touring in Sweden.

AT last success has crowned the efforts of the Royal Automobile Club of Sweden to secure greater facilities for motoring visitors. The triptyque system has now been established, and arrangements have been made with the Royal Automobile Club here for the issue of the necessary papers. It is expected that in consequence of these new

arrangements the number of foreign motorists visiting Sweden will be greatly increased, and the Swedish Club are to be congratulated on the result of their work.

American Motor Industry.

SOME idea as to the immensity of the American motor car industry can be gathered from some figures which have recently been published. It is estimated that a sum of £45,000,000 is invested in the manufacture of motor cars, while £35,000,000 is invested in the production of accessories. About 200,000 persons are employed in manufacture, while 5,500 persons are engaged in selling the productions, and the agents and garages give employment to about 33,000 persons. About £5,000,000 is paid annually to railway companies for transport. At the present time there are about 350,000 motor cars in use in the United States.

CONCLUSIONS OF BRUSSELS ROAD CONGRESS.

AMONG the conclusions arrived at by the International Road Congress at Brussels, was one that it was desirable that trials should be taken in hand for the purpose of determining the relation which should subsist between the load, the diameter of wheel, and the width of tread, so as to avoid abnormal damage. Such automobiles as fell under the head of "touring cars" could not cause abnormal damage to the roads so long as their speed was kept within limits. Public service automobiles could not cause appreciable damage to the road provided that the *maximum* speed did not exceed 25 kiloms. per hour; that the *maximum* axle load did not reach 4 tons on the heaviest axle; and that with wheels of 1 metre diameter the load was below 150 kilogs. per cm. width of tread. Industrial automobiles need not cause exceptional damage to a well-constructed road provided that the following limits are adhered to:—First type—vehicles in which the axle-load was $4\frac{1}{2}$ tons; *maximum* speed, 16 kiloms.

per hour; load on tyres, 150 kilogs. per cm. of width of tread with wheels of 1 metre in diameter. When vibrations of the ground were to be feared in narrow streets it was possible to minimise the inconvenience by reducing the speed. Second type—vehicles in which the *maximum* axle-loads were between $4\frac{1}{2}$ and 7 tons; *maximum* speed, 12 kiloms. per hour; load on tyres, 150 kilogs. per cm. of width of tread with wheels of 1 metre in diameter.

It was desirable that experiments should be taken in hand in order to give the *maximum* width which could be given to the tyres of all automobiles while still ensuring that, under normal conditions, the distribution of the load on the ground should take place over the whole supporting area.

Car builders should also carefully investigate the questions of brakes and clutches in order that skidding of the wheels might be avoided.



Motors for Army Commissariat.

IN connection with the training camp for U.S.A. National Guardsmen at Chickamauga Park, Major G. G. Bailey recently installed a "White" motor lorry to transport provisions from Chattanooga to the camp, a distance of about 11 miles. Owing to the continuous rain during a greater part of the time the road conditions were unfavourable, but the lorry made daily trips to Chattanooga, and on several occasions two or three trips.

The average time for the round trip of 22 miles was $2\frac{1}{4}$ hours, while the best average by Army teams, of four mules each, was $7\frac{1}{2}$ hours. The Army authorities stated that the motor vehicle did the work of six mule teams. An experiment was also tried in connection with the distribution of ammunition during the Army manœuvres. Starting at 9 a.m. the whole of the work was completed by noon, whereas six to eight mule teams would have been required, and they could not have completed the task before three o'clock in the afternoon. Naturally, these results have made the officers very enthusiastic on the subject of motor traction, and "White" vehicles in particular.

Praise from a Foreign Rival.

IT is difficult to conceive a more eloquent tribute to the excellency of British motor cars than has just been paid by a prominent French manufacturer. Writing to Mr. Letts, he states that he considers Mr. Letts was far too modest when describing the British motor exhibit at Brussels, as in his opinion the covered Napier car exhibited by Messrs. S. F. Edge, Ltd., was the most handsome car in the whole of the Exhibition. And now that splendid specimen of British skill has been consumed in the disastrous fire which broke out in the Exhibition buildings on Sunday last.

Aberdeen as an Industrial Centre.

WITH the object of making known the attractions of Aberdeen as a suitable place for new industries, and also as a desirable residential city, the Industrial Development Committee have prepared a booklet which contains much interesting and instructive information regarding the "Granite City," as well as a very useful map. Anyone seeking a site for a factory can obtain copies of the pamphlet and any other information from the Town Clerk, Aberdeen.



WHERE THE MOTOR VEHICLE WILL MAKE ITS WAY.—A U.S.A. wagon train equipment of the Commissariat Department at Camp Corral, Camp of Instruction at Chickamauga Park, last month. One of the White steam trucks attached to the Army school is in the foreground.

Company Doings

Stepney Wheel Co. Again Successful.

ANOTHER successful prosecution was made by the Stepney Wheel Co., at the North London Police Court, when Edward Cummins was charged with unlawfully applying to certain goods, viz., spare motor wheels, an alleged false trade description.

Counsel and solicitors had a consultation with the magistrate in his private room, and on returning into court Mr. Coutts Trotter (counsel for the plaintiffs) said that there were two charges—one or applying a false trade description to certain wheels, and the other for selling goods to which the false trade description had been applied. The defendant had now offered to make an apology and to give the Company all the assistance he could to remedy any harm that had been done and make good loss which had been sustained. Under those circumstances the prosecutors had no wish to press the matter further, and with the magistrate's approval he proposed to withdraw the charge.

Mr. Hedderwick (the magistrate) consented, and the charge-sheet was marked "Charge withdrawn by consent."

Cummins was then discharged.

Overland Automobile Co.

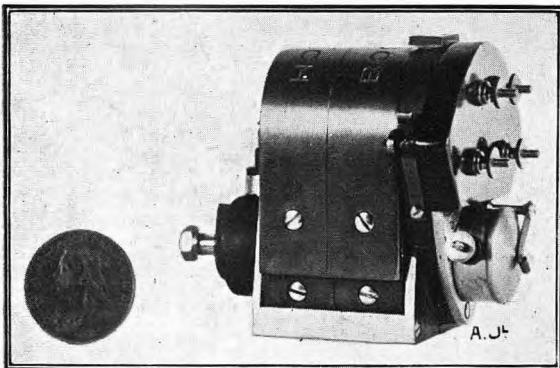
IN view of the recent introduction of the Overland car to the British market, it is interesting to learn that the board of directors of the Overland Automobile Co., whose headquarters are at Indianapolis, have resolved to increase the capital of the Company by four million dollars, *i.e.*, from two to six millions. This trebling of stock shows a determination to do an exceedingly large business, as a capital of £1,200,000 is an exceptional one. In this country the Overland is sold by the Anglo-American Motor Car Co., Ltd., Heddon Street, W.

NEW COMPANIES REGISTERED.

Almagam, Ltd.—Capital £80,000, in 5s. shares. Manufacturers of almagam, rub-metal, vulcanized and unvulcanized rubber sheet, &c. Under an agreement with the New Motor and General Rubber Co., Ltd. First directors, A. C. Baber, W. H. Golding, T. Warwick, and Warwick J. Wright.

Buckman Engineering (Parent) Co., Ltd., 2, Clement's Inn, Strand, W.C.—Capital £5,000, in £1 shares. Motor, aviation, mechanical, and general engineers, &c. Under agreement with B. J. Buckman and R. S. Buckman.

Greenwich Rubber Recovery Co., Ltd., 7, Union Court, Old Broad Street, E.C.—Capital £3,000, in 2s. shares. Formed to acquire certain machinery, &c., of the late firm known as the Surrey Tyre Co. at East Greenwich, rubber recoverers, manufacturers, and merchants, and particularly to own and work the old company's process in conjunction with a secret process of W. McCowan, chemist.



A BOSCH MAGNETO AS A PAPER WEIGHT.—In our photograph is seen a miniature Bosch magneto, exquisitely made, in like manner to its larger brethren, which are in such universal use on motor cars. This little gem, however, is for use as a paper weight, and is presented by the Bosch Co. to their many supporters. Its size can be judged by the penny which is photographed by its side. As we fancy the stock of these little Bosch replicas of the real thing must speedily be exhausted, application to the Company for them should be made without delay by those wishing to secure one.

PUBLICATIONS RECEIVED.

Cycling Spins in Beechy Bucks. By T. W. D. Smith. London: The Great Central Railway, 216, Marylebone Road, W.
The Highroads of the Alps. By C. L. Freeston, F.R.G.S. London: Kegan, Paul, Trench, Trubner, and Co. Price 10s. 6d.
First Irish Road Congress, Dublin, 1910. Complete Report. Eason and Sons, Ltd., Dublin and Belfast. Price 1s. 6d., post free.
The Motor Cycle Route Book of the British Isles, with Maps. London: Iliffe and Sons, Ltd. Price 1s. 6d. net.
Surrey. By J. Charles Cox, LL.D. Illustrated. "Little Guide" Series. London: Methuen and Co., Ltd. Price 2s. 6d. net.

Catalogue.

Renold Patent Silent Chain and Sprockets. Hans Renold, Ltd., Manchester.

BRITISH EXPORTS AND IMPORTS OF MOTOR CARS, &c., FOR 1910.

In the trade returns for January, 1909, for the first time, *real* annual import and export trade totals were comparable, as, prior to 1908, no record was made of cars of travellers either coming into or leaving this country, the values and numbers being simply included in the export and import figures.

NOTE.—In our issue for January 13th, 1906, we published in one table the full figures of British Exports and Imports for 1902, 1903, 1904, and 1905. Prior to 1902, motor cars were not classified separately. In the issue for January 12th, 1907, the complete figures for 1906 were published; for 1907 in January 11th, 1908; for 1908 in January 16th, 1909; and for 1909 in January 15th, 1910.

JULY.	1909. July.		Seven Months ended July.		1910. July.		Seven Months ended July.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
IMPORTS.								
Cars	367	£123,000	2,115	£717,570	279	£106,774	2,388	£734,100
Chassis	497	140,044	2,950	795,177	594	151,115	4,088	1,033,758
Parts	—	153,145	—	987,911	—	176,303	—	1,169,969
	864	416,189	5,065	2,500,658	873	434,192	6,476	2,937,827
Motor cycles	135	3,578	992	27,202	134	4,090	990	31,064
Parts	—	4,799	—	16,535	—	4,622	—	32,966
	999	424,566	6,057	2,544,395	1,007	442,904	7,466	3,001,857
EXPORTS.								
Cars	218	83,566	1,156	425,843	258	99,645	1,583	607,304
Chassis	26	10,143	125	49,519	52	18,903	305	112,375
Parts	—	59,436	—	287,865	—	74,820	—	563,907
	244	153,145	1,281	763,227	310	193,368	1,888	1,283,586
Motor cycles	128	4,388	701	24,202	260	9,642	1,509	53,661
Parts	—	2,376	—	18,898	—	2,358	—	21,364
	372	159,909	1,982	806,327	570	205,368	3,397	1,358,611
FOREIGN AND COLONIAL RE-EXPORTATION.								
Cars	39	13,300	261	83,473	52	15,618	391	106,693
Chassis	26	9,685	132	45,498	45	12,109	207	64,394
Parts	—	11,959	—	76,350	—	15,074	—	95,110
	65	34,944	393	205,321	97	42,801	598	266,197
Motor cycles	8	297	49	1,748	8	286	33	1,092
Parts	—	2,314	—	10,389	—	574	—	2,569
	73	37,555	442	217,458	105	43,661	631	269,858

Note.—Total number of cars (including touring and other cars not for sale) during July, 1910—

Imports—633 (total for 1910, 4,066), value £348,135 (total for 1910, £1,885,000).

Exports—364 (total for 1910, 2,313), value £159,198 (total for 1910, £979,232).

Foreign and Colonial re-exports—195 (total for 1910, 940), value £124,598 (total for 1910, £506,657).

COMMERCIAL POINTS.

Mr. Luff-Smith joins F. S. Bennett, Ltd.—His many friends in and out of the trade will be interested to learn that Mr. Luff-Smith has recently joined Messrs. F. S. Bennett, Ltd., who handle the famous Cadillac cars on this side of the Atlantic, and that he will very soon be making a tour of the country on one of the 1911 types. Mr. Luff-Smith is one of the pioneers, as his experience in the motor trade dates back to its inception. He is best known through his connection with the Wolseley Co., but before the opening of the works at Birmingham Mr. Luff-Smith had been representing the Humber Co. at a time when they were turning their attention to motor work.

Dunlops for Taxicabs.—In the cab garage of W. and G. Du Cros, Ltd., at Acton, where there are upwards of 700 taxicabs fitted with Dunlop tyres, a notice has been posted up to the following effect: "The management compliments the drivers on the steady average increase in the life of tyres, which is the best proof of careful driving."

MR. M. L. SCARFF, who previously occupied the position of sales manager to the Austin Motor Co. in Birmingham, has now come to London to take up his new position of London manager of the motor department for Messrs. Allways and Onions. On leaving the Austin Co. Mr. Scarff was presented by the staff with a handsome smoking room cabinet as a mark of their goodwill.

MR. H. ORLOFF COMBE writes to the Stepney Spare Motor Wheel, Ltd., that the "Stepney" Road Grip Tyres fitted to the winning Delage in the 50 m.p.h. race at Brooklands proved most satisfactory, and considering the high number of revolutions made by a wheel of only 700 mm. diameter at such high speeds as over 60 m.p.h., they kept remarkably cool and held the track to perfection. Mr. Combe hopes to be using the same tyres for the same purpose again on October 5th, and if racing a bigger car he will again rely upon "Stepney" Road Grip Tyres.

WHEN it is remembered that engine reliability is a very important matter to aviators, and also that it cannot be secured without regular ignition, the fact that a great many aviators are adopting Hobson-Pognon plugs is as high testimony as it is possible to have.

DURING this year the Humber models have been scoring success after success in nearly all the great motor cycle trials. Their long line of victories is now supplemented by their latest performance during the Kendal-and-back tour of the Herts Automobile Club. Then Mr. Bert Yates, riding a Humber two-speed model, won the challenge cup presented by the Triumph Cycle Co. for the finest performance of a single-cylinder machine, thus again proving the remarkable reliability and all-round excellence of this splendid mount.

MR. O. S. THOMPSON has written a very interesting letter to Messrs. White and Poppe anent their carburettor fitted to his Austin car, "Pobble," which has proved so successful at Brooklands. On a recent Saturday it was timed to do several laps at Brooklands at 87 to 88 miles an hour, while on the following day in traffic it toddled along quite happily on top gear behind cycles and horse drawn vehicles. Mr. Thompson adds that, although the car is only fitted with a special high-speed magneto, it generally starts on the first or second turn.

We understand that the Simms Magneto Co. (Incorporated) of New York have recently purchased a large acreage of land at Bloomfield, New Jersey, where works are now being erected, covering three acres, and in which 1,200 men will shortly be employed in the production of Simms magnetos and accessories.

We are given to understand that at the last race meeting at Brooklands every first prize was won by a user of "Shell" motor spirit, besides seven seconds and a like number of thirds, while in the aviation competition Mrs. Bird's biplane, piloted by M. Blondeau, gained the first prize, no other competitor qualifying. In the Shipham hill-climb, every award in all three classes, with the exception of a modest third, fell to "Shell" users.



BRITISH PATENT SPECIFICATIONS. Selected and Abridged by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

The first date given is the date of application; the second at the end, the date of the advertisement of the acceptance of the complete specification.

19,477. August 25th, 1909. Improvements in the Valves and Gear of Internal-Combustion Motor Engines. John Magee, of Woodvale Road, Belfast.—This invention consists in the construction and arrangement of a rotary, semi-spherical or partially globular form of valve having one or more ports, and a correspondingly formed valve-face, having two or more ports for the inlet and exhaust. Figs. 1 and 2 are sectional elevation and sectional plan respectively. Two valve-ports, *a*, are provided in the valve, *b*, in combination with a case or cylinder-end, *c*, having two inlet-ports, *d*, and two exhaust-ports, *e*. The valve, *b*, is revolved through gear comprising spur-wheel, *f*, fixed on valve-stem, *g*, driven half-speed from pinion, *h*, on shaft, *i*, revolved at half-speed by other usual gear from crankshaft, which thus revolves four times to once of valve. By timing valve, *b*, so that the main shaft revolves twice to once of valve, it may have only one port and valve-case, *c*, one inlet-port and one exhaust-port. The pressure of the

internal-combustion engines. In this invention a supplementary exhaust-port is provided towards the bottom of the cylinder, such port being arranged to open before the main exhaust-port, the opening of which does not occur until the pressure in the cylinder has been reduced approximately to atmospheric by the escape of the burnt gases through the supplementary port. The supplementary port then closes, and the remainder of the exhaust gases are expelled through the main exhaust-port in the usual manner. Fig. 1 is a sectional elevation. Two

connecting-rod, *n*, while the auxiliary piston, *h*, is connected to the auxiliary crankshaft, *o*, by means of the connecting-rod, *p*. The crankshafts, *m* and *o*, are connected by any suitable gearing (not shown) in such a manner that the speed of rotation of *o* is one-half that of *m*, and the sleeve, *g*, is reciprocated from the auxiliary crankshaft by means of the connecting-rod, *q*, suitable guides being provided to prevent the sleeve, *g*, from rotating. In this invention, in addition to the main exhaust-port, *l*, a second or supplementary exhaust-port, *r*, is situated towards the lower end of the cylinder, *c*, correspondingly supplementary ports, *s* and *t*, being also arranged in the sleeves, *d* and *e*. The port, *r*, is then opened in precisely the same manner as the main port, *l*, by the relative movements of these sleeves, *d* and *e*. The supplementary exhaust-port, *r*, is made to open some time before the dead centre is reached, while the main exhaust-port, *l*, remains closed until practically dead centre. In Fig. 1 the sliding-sleeve, *g*, is just about to uncover the port, *r*, while the port, *l*, is seen to be still fully closed. The opening of the main exhaust-port, *l*, is thus delayed until the pressure in the cylinder has been reduced to approximately atmospheric by the escape of a portion of the burnt gases through the supplementary port, *r*.—July 27th, 1910.

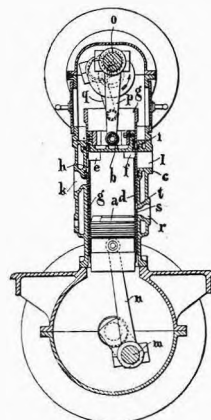
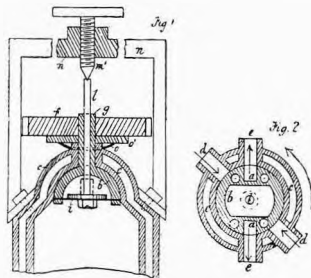


Fig. 1

pistons, *a*, *b*, work in the cylinder, *c*, of the engine, the piston, *b*, being prolonged backwards so as to form a sleeve, *d*, within which the piston, *a*, works. The sleeve, *d*, is provided with ports, *e*, *f*, to allow of the passage of the gases to and from the working cylinder, while between the pistons and the cylinder is arranged a sleeve, *g*, provided with ports, *h*, *i*, adapted to put the inlet and exhaust-ports, *k*, *l*, into communication with the corresponding ports, *e*, *f*, in the sleeve, *d*, at the times appropriate to inlet and exhaust respectively. The main piston, *a*, is connected to the main crankshaft, *m*, by means of the

Patent Specifications Published.

Abbreviations:—I.C. = Internal combustion. m. = motors.

Applied for in 1909.

Published August 18th, 1910.

- 16,951. T. QUINLIVAN. Traction engines, motor cars, &c.
- 17,063. W. MULHOLLAND AND F. COAKLEY. Radiators.
- 17,856. S. BASCH. Elastic tyres.
- 18,707. C. W. HIGGS. Transmission-gear.
- 21,865. T. BARBOUR AND A. ORR. Resilient wheels.
- 29,878. FIRM GEB. SULZER. I.C. engines.

Applied for in 1910.

Published August 18th, 1910.

- 1,001. G. DUMONT. Automobile vehicles.
- 7,172. D. P. COLLINS. Variable-speed-gear.
- 8,202. C. J. WATTS. Reinforced air-tubes for tyres.
- 12,150. P. M. DUPONT AND OTHERS. Starting I.C. engines.

valve on its face is balanced by a diaphragm, *i*, made of a flexible metal disc and bearing-rod or stud, *l*, fixed over the cavity inside valve or at end of valve-stem, *g*, which transmits the internal pressures by a rod or stud, *l*, on to the abutment, *m*, set in a rigid bracket, *n*. To keep valve normally on working face a spring, *o*, bearing against plate, *q*, is used.—July 27th, 1910.

3,412. November 3rd, 1909. Improvements in and relating to Internal-Combustion Engines. J. E. Sears, of 6, Percy Terrace, Newcastle-on-Tyne.—This invention relates to four-stroke cycle