

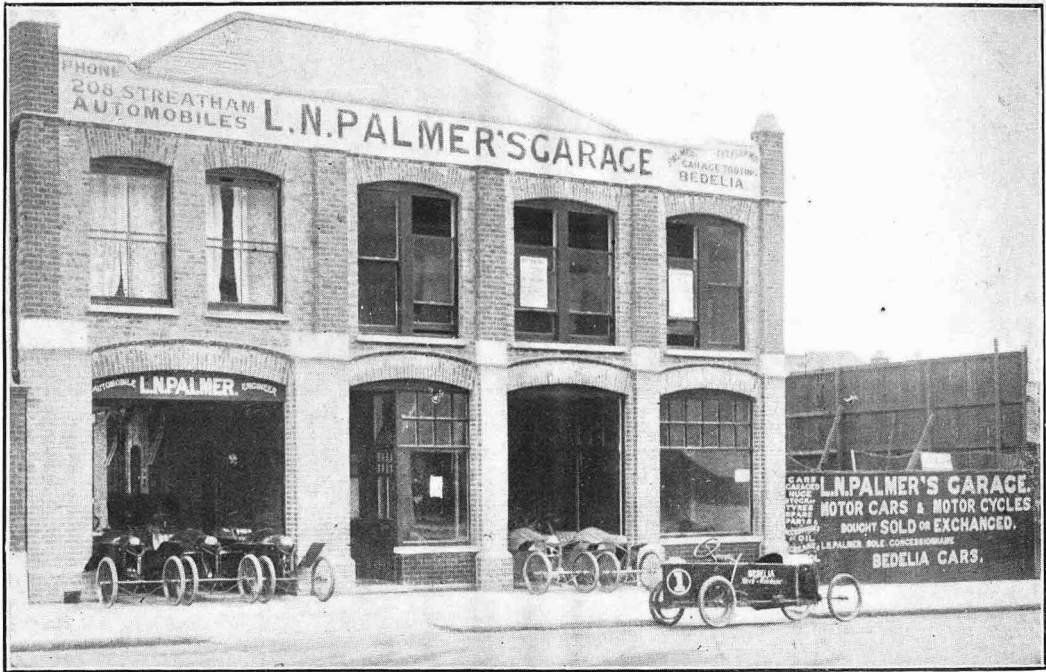
11TH DECEMBER, 1912.
ONE PENNY.

Registered at the G.P.O. as a Newspaper.

The Cyclocar



PALMER



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5-6 h.p. REX, 2-cyl.	25
New Cyclecar chassis, ready to receive engine	15

N.B.—Write for our Bargain List of Accessories.



THE NEW MOTORING.

Scene: A private office at Olympia during Show week. Characters: John Bull (a prosperous individual recently interested in the new motoring), who, with Mrs. Bull, his wife, have only a superficial knowledge of the cyclecar movement. Steel, an engineer. Sparklet, a young "blood," whose one idea is speed. He has had some practical experience of cyclecars, and does not hesitate to show it.

Mr. and Mrs. Bull, Steel and Sparklet are discovered having tea at a cosy office in the annexe at Olympia. It is the third day of the Show, and they have met together after an independent inspection of the cyclecar exhibits. Their discussion on the new motoring is given verbatim below, having been taken down secretly in shorthand by a special correspondent of THE CYCLECAR.

"FIRST of all, why call them 'cyclecars'?" said Bull. "'Runabouts' is a better name."
"Roundabouts, you mean," chipped in Sparklet, and the others laughed. "Roundabouts and roundaboutists, why not?"

The level-headed engineer, Steel, agreed that "runabout" was not a happy term. "It is one that has gone out of use in America, like other slang expressions. What do you think of the cyclecars?"

"Far too small. My wife and I have been round trying them, and I believe there are only one or two in which I can sit at all comfortably."

"But you're an exception, and you will have to buy a chassis and fit a special body to it for your own requirements."

"That's where you're wrong, Steel," said Sparklet, whose hair, carefully brushed back, patent leather boots, gorgeous brown raiment, and the latest idea in waistcoats, tie and spats, proclaimed him as an authority on motoring, the like of which may often be seen in Long Acre.

"I've tried one or two racy little machines, and I

find that there is not nearly enough room between the steering wheels and footboards. You see, my legs are rather long."

Mrs. Bull had an inspiration: "Well, why couldn't they be made adjustable?"

"The very thing," interjected her better half.

"But some of them are adjustable," said Steel.

"What did you think the best thing in the Show, Mrs. Bull?"

"The Singer and Tyseley cars appealed to me, because they were covered in. But, then, they're so frightfully expensive, and we haven't room to store that sort of a car. Then there was that lovely red Bedelia with the Cape-cart hood, but I'm not sure that I liked the tandem seats."

"I've tried the tandem seats on the road," answered Sparklet, "and they're not nearly so unsociable as one might think, and they're far faster than the side-by-side."

"But I don't want to go fast, Mr. Sparklet. My hat and hair would soon be blown away, and it's so terribly cold when you travel fast."

THE NEW MOTORING (contd.).

"You could easily have a windscreen fitted," said Steel.

"I did not notice many machines with them."

"I shouldn't advise you to have one, either, Mrs. Bull. They rattle and keep the speed down." Speed and speed only was apparently Sparklet's idea.

"What struck me most of all," said Bull, "was the great difference in the machines. You have what practically amounts to a small car on one side, and at the other extreme there are curious little machines like the Rollo and Rudge. Perhaps Steel can tell us which type will survive?"

The engineer was puzzled. He finished his tea and lit a cigarette. "You have me there," he said.

"If I could answer that question, a question which only time will decide, I could make my fortune. As you know, I drive a car, and consequently those machines following car practice appeal to me more than the cruder types of vehicle. Some of them are too ridiculous for words, and I think that, to some people, their appearance will do the movement harm. I don't like belt-drive or air-cooled engines."

"What are those, Mr. Steel?"

Collapse of the engineer at the frightful ignorance displayed by Bull's better-half after an afternoon at the Show.

However, Sparklet leapt into the breach. "You are just like all car drivers, Steel. You see just as far as your nose, and not an inch beyond. Have you ever tried belt-drive or air-cooling?"

"Only on a motor-bicycle several years ago."

"Belt drive has been enormously improved of late, and when run under ideal conditions should give little or no trouble. Besides, you need not build your cyclecar so frightfully mechanically if you use belt drive. It's so sweet and absorbs all harsh strains from the chassis."

"But I want a vehicle that is mechanically correct."

"Well, I want one that goes and gives no trouble, whether it is mechanically correct or not—I don't care one jot. The proof of the pudding is in the eating."

"That's right enough, old man, but look back on the past year's performances, and what has the belt-drive machine to show? Friction drive on the G.W.K., and shaft and chain on the Morgan have proved themselves in the English and Scottish Six Days Trials, but I'll warrant no belt-driven cyclecar would have climbed Porlock in the grease as did the Morgan that Saturday morning in August."

"My reply is, that machines like the Bedelia have

done well in speed trials in France. The actual machine that won the Grand Prix at 38 m.p.h. was shown on Palmer's stand, whilst the nine-hour record by the Duo on the flooded Brooklands track should show you what can be done by belt drive. Then as to air-cooling. How could the Morgan have done 60 miles in one hour if air-cooling were unsatisfactory? How is it that these motor-bicycles and sidecars are such a success if air-cooling is a failure? Answer me that if you can."

"My experience—" Steel was cut short.

"With a water-cooled engine on a car," interrupted Sparklet.

Poor Steel was crushed. He could not back his opinion by practical experience of modern cyclecars or motor-bicycles. "Sorry to interrupt," went on Sparklet;

"but the fault with water-cooling, to my mind, is the fact that the vibration of these light machines is enough to break up any radiator. I certainly liked the copper-tube arrangement on the Super and Chater Lea, but I am afraid that honeycomb radiators would give trouble. In either case, water-cooling can't possibly be so simple as air-cooling, and simplicity is what is wanted to-day."

"Bravo! Mr. Sparklet." Mrs. Bull was visibly moved. "I

want to drive our cyclecar, and I must have something quite light and easy to manipulate. It must be smart and clean to handle and, above all, compact. I tried the Gordon two-seater and thought it sweet. The seats give you support for your back, and yet one is not sitting on the floorboard."

"Well, my dear, what about the framework arrangement on the Bedelia 56-guinea model?" asked Mr. Bull.

"That looks rather too unusual, I think. Besides, I do not want to have to clamber over the side of the machine like a boatman. I like a cyclecar with a side-entrance door."

"But the boat-shaped body is much the stronger, Mrs. Bull," said Steel, whose practical mind saw the advantages of combining lightness with strength. "Have you ever thought, Sparklet, on how many different lines of design the manufacturers are tackling this cyclecar proposition?"

"Sure, there are two main lines—one design goes for the light-car idea, and the other for a motorcycle on three or four wheels."

Steel smiled. He had caught his young and enthusiastic friend on the nod.

"What about the Bedelia, then?" he asked quietly.

"It follows motorcycle lines," was the reply.

"What motorcycle has a wooden frame?"

Sparklet was nonplussed. He scratched his head.



Sparklet leapt into the breach: "You are just like all car drivers, Steel."

THE NEW MOTORING (contd.).

"Give it up, old man; you've got me there. What's your idea, then, as to the different designs for cyclecars?"

"I've no idea, but I should not be surprised to see the ultimate form of vehicle follow aeroplane construction."

"Aeroplane construction!" repeated Mr. and Mrs. Bull in astonishment.

"Yes, why not? We want lightness and strength, so why not copy a few ideas from the flying machine?" answered the engineer.

The bulky Bull sighed.

"Would not trust myself in one of those machines for £1000. Not even if it ran along the ground. Well, perhaps I shouldn't mind that so much, but, seriously, Mr. Steel, do you really think it possible for a cyclecar to be built of wooden stays braced together with wire?"

"My dear sir, a machine on exactly similar lines is now being built near London. The car and the whole outfit will only weigh 200 lb.—that is less than the average heavy-weight motor-bicycle."

"But would it be safe? And how would it hold the road? I'm sure it would break in two if I were aboard."

"Well, that remains to be proved, Mr. Bull; but the idea is worth considering, and for that reason I think it would be a mistake for any arbitrary definition of a cyclecar to be made. Let the machine evolve its own destiny."

"Perhaps something will be invented which is not yet thought of," said Sparklet. "That idea of lightness not holding the road is piffle. I've been round Brooklands on several of the racing monocars and they are absolutely safe, even the three-wheelers."

"Did not one turn over on the track last year?" interposed Steel.

"Not because it wouldn't hold the track. It was due to a wheel buckling after a sudden puncture, I believe, and the same machine won a road race on the Continent, so it must be stable enough. Do you know, I was talking to Mr. Morgan the day after the hour record, and he told me that he had a burst in the front tyre on a practice trial and never experienced any trouble in pulling up."

Bull puffed at his cigar. "Your remarks interest me very much, Mr. Sparklet. One of the Sabella men took me out for a trial run the other day on a tandem two-seater. We were going along the Coventry-London road fairly fast when there was a bang. 'Fire in the silencer,' the demonstrator shouted, and we went on for a mile or two and stopped. Then we noticed that part of the off front tube was hanging out of the cover, which was flat. The noise had been of a burst in the tyre, but we never knew it. These long machines are so beautifully sprung, you see."

Sparklet could not resist quoting his own experience. "You get a beautiful floating feeling on some of them, you know; the best thing I've tried, Mr. Bull, is the Humberette; it's most wonderfully sprung. Your wife ought to look at that machine."

"Well, my dear, we've not seen that, so why not go to the Humber stand and have a look at the machine before we go? We'll take Sparklet's advice." The pair rose, bade Sparklet and Steel good-bye and departed.

The latter two began to smoke in silence.

"I've ordered a monocar chassis," said Sparklet.

"A Rollo pony?" asked Steel.

"No; it's a secret at present. It will do 70 for the mile at Brooklands. I'll take you out on her when she comes up, if you like."

"Not much; wouldn't come with you, you reckless young beggar, if I were paid. The future of monocars does not lie in the direction you think it does, my friend."

"Possibly. I'm an exception, I know, but a wonderful lot of single-seaters have been sold, you know."

"Who to?"

"Young fellows like me, I suppose," said Sparklet.

"No, you're quite wrong; the Rollo people told me that most of their machines, which are not speed models at all, had been sold to commercial travellers, bioscope operators, doctors, travelling dentists, golfers and the like."

"Well, let's go round the Show again."

"Have anything to drink before you go?" asked Steel. His friend nodded assent, and two glasses clinked.

"Well, here's success," said Steel; "success to the new motoring!"



A G.W.K. on Kop Hill, Herts., a favourite venue for hill-climbing competitions.

THE CYCLECAR WORLD.

Notes, News and Gossip of The New Motoring.

No. 2—again a remarkable demand.

There were many repeat orders from newsagents. "Cyclecar" is spelt correctly as one word—**not two.**

Major Lindsay Lloyd was the originator of the word "cyclecar."

Dr. Low is to read a paper before the members of the Cyclecar Club in January.

A series of cyclecar clubs will spring up all over the country in the course of the next few years.

What a sight the roads will be in a few years time when tens of thousands take up the new motoring!

Neither cyclecars nor motor-bicycles will be shown at the Scottish Motor Show, which opens on Saturday, 25th January.

The gentleman who predicted that the new journal would prove a failure had a rude shock when he arrived at Olympia.

What could be better than a single-seated cyclecar for running down to the station of a morning? Safe, simple and easy to store.

Those who live in country districts some distance from a railway station will appreciate the boon conferred by the cyclecar.

A different picture will appear on our front cover every week. Suitable photographs are welcomed, and, if accepted for the front cover, are paid for at special rates.

There are many disused stables in urban districts; cute cyclecarists will be making low terms for permanently renting them as garages for cyclecars before the rush sets in.

In the cycle and now in the motor days, the Ripley road from London has always been the popular highway for initial runs on new machines. Every week-end a round dozen new cyclecars are to be seen on this road.

Where are there centrally-situated restaurants with free garage accommodation in the big cities, including London? Cyclecarists are asking this question, so that they can find places for meeting one another regularly.

Side-splash guards having been suggested for motor omnibuses, a nameless humorist wants the attachment of similar guards to the wheels of all motor vehicles to be made compulsory. Why not fit guards to the hoofs of horses?

We deal very fully this week with the proposed race for standard cyclecars (see centre pages). It is over a year ago since this race was first suggested (in the pages of our sister journal "Motor Cycling"), and it is amusing, therefore, to note an unkind "dig" at ourselves in a contemporary which suggests that it originated this idea "some weeks ago."

The cyclecar is very fast on hills, chiefly owing to its light weight and efficient transmission. This fact seems to annoy owners of big cars, who are often "left standing." After all, if a man has paid £600 or £700 for a car and finds one of those "wretched contraptions with belt drive" can hold the road at a speed beyond the power of his engine, he begins to wonder whether "the new motoring" won't interest him in the future.

B14

The price of petrol—1s. 7d. per gallon.

All praise is due to "The Motor" for its noteworthy efforts to secure a cheap home-produced fuel.

The Society of Motor Manufacturers and Traders are offering a prize of 2000 guineas for a home-produced fuel. Full particulars appear in "The Motor."

At Frinton-on-Sea there is a kind of co-operative garage for the use of motoring visitors to this popular East Coast golfing resort.

Reliability trials and hill-climbs are wanted to prove the merits of various types of machines and help the public to choose a suitable cyclecar.

Readers are advised to proceed warily with the home-made machine. One may be made cheaply; but experimenting will run away with the money.

We hear of amateur-designed bodies being made of Cape-cart hood material, sheet aluminium and wood, all of which have special advantages of their own.

The cyclecar movement is not without its royal enthusiast, for Prince George of Battenberg owns a Duo, and is reported to be a very keen devotee of the pastime.

Should ladies drive motor vehicles? When it comes to a machine so easy to handle as the simplest type of cyclecar, we say why not? What do our readers think?

Those who, for reasons of their own, have sneered at the cyclecar movement in the past are still engaged in administering cold douches to the enthusiasts of the new motoring.

Motoring always has its risks, and the wise will insure against them. Several special cyclecar policies may be obtained, notably those issued by Messrs. Harold Townend and Co. and the Motor Union Insurance Co., Ltd.

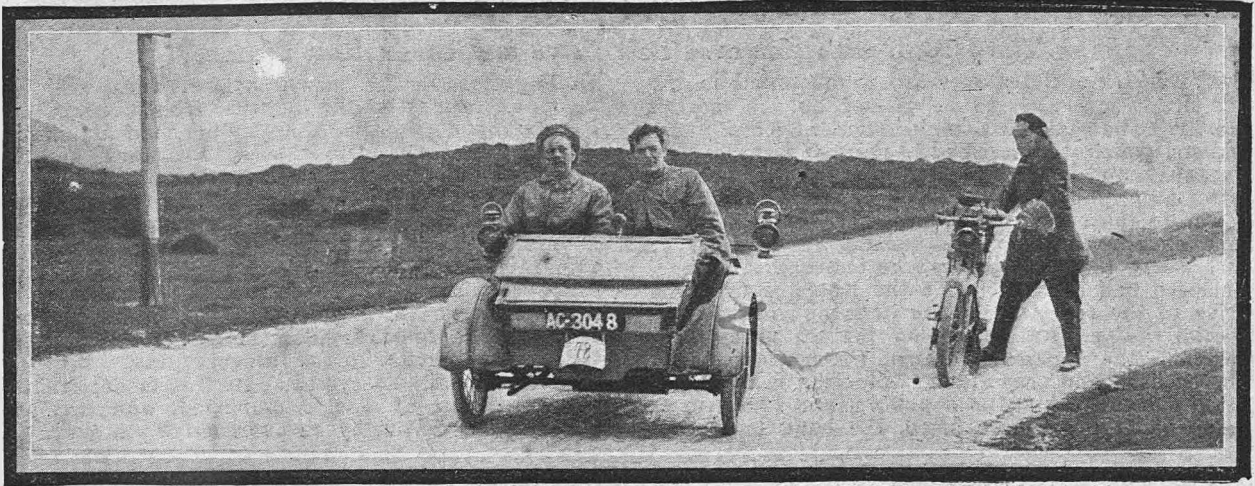
The first issue of "Motor Cycling" was produced when there were very few motorcyclists, and there were not many more people who had any faith in the motorcycle movement. Like THE CYCLECAR, it was "first in the field."

Readers are asked to inquire at various garages what is the weekly rate for storage of a cyclecar, and to let us have the replies. Where the rate quoted is high, they might point out that a vehicle taking up so little room should be on a lower scale.

Cyclecar body-building is likely to develop into a big business in the future. At the present time most makers build both chassis and bodies, but in the future it is probable that cyclecarists will prefer to order chassis only and then fit their own design of body.

Starting up on some types of machine presents a certain amount of difficulty. One enthusiastic amateur who has built his own cyclecar has bruised his knuckles so badly more than once when starting up, that now he always wears a boxing glove for the operation.

The social side will be a strong feature of the Cyclecar Club. Several members have invited the club to their houses during the summer months. gymkhana and a ladies' day are events that will please the fairer sex. Ladies are admitted to membership for an annual subscription of 10s. 6d.



ENJOYING THE BREEZE. — An A.-C. sociable in the recent Liverpool one-day trial, on the top of Horse Shoe Falls Hill, a wind-swept spot on the old road between Llangollen and Corwen.

The Severest Test on Record.

The severest test that cyclecars have ever been subjected to was undoubtedly this year's Scottish Six Days Trial. Two G.W.K.s successfully competed in this event, which has since become a by-word for its appalling road surfaces and hills. One of these machines forms the subject of our front cover this week, which shows a friction-driven G.W.K. passing a gigantic traction engine, which was repairing the famous End-to-End road on the outskirts of Inverness. The unrolled stones were quite 5 in. deep.

Cyclecar Club Fixtures.

The following fixtures have been drawn up provisionally by the committee of the Cyclecar Club:—

- January.—Lecture by Dr. Low.
- February.—Smoking concert.
- 15th March.—100 Miles Non-stop Trial.
- Easter, 21st-24th March.—Welsh tour.
- 19th April.—Fuel-consumption Trial.
- 3rd May.—Gymkhana at Sheppey.
- Whitsuntide, 10th-12th May.—Rally at Buxton.
- 24th May.—Ante-breakfast run and paper-chase.
- 23rd June.—Open hill-climb.
- 5th July.—Ladies' day.
- Also in July.—R.A.C. Gala day.
- 2nd-4th August.—London-Paris run.
- 12th September.—Members' Flexibility Hill-climb.

OUR FINANCE BUREAU.

Communications with regard to the following announcements should quote the reference letter and be addressed to The Editor, "The Cyclecar," 7-15, Rosebery Avenue, London, E.C.

Ref. A.—Certain parties are willing to consider financing a manufacturer of a cyclecar on miniature car lines, to sell at about £125, one which can be adapted for commercial as well as pleasure uses.

Ref. B.—A gentleman who has been in the cycle and motor trade for 10 years is willing to invest £2000. Would like to be put in touch with a manufacturer prepared to consider a selling scheme. Capital would be devoted to opening and stocking West End or City show-rooms, with sole selling rights of output.

Ref. C.—Two engineers who have designed a cyclecar, an experimental model of which is now being constructed, would like financial assistance in placing it on the market.

Questions at Olympia.

One of the stands at Olympia that created most interest in the gallery was that of F. E. Baker, Ltd., on which was shown the new Low engine. The inventor informs us that on an average he has explained the engine to about 700 people a day. There was such a run on the pamphlet explaining it that a card was printed referring inquirers to "Motor Cycling" (where it was described very fully), and in this way about 20 per cent. of the people went and got copies.

Before the engine arrived, numbers of trade people wanted to know where it was, and on the stand it looked just like an ordinary water-cooled engine, so that until a small card was placed on it no one even knew where it was. One cheerful man pointed to a sectional Precision engine, and explained to his friend that it was the "Low," and that the crankcase was cut away to allow the petrol to escape!

One evening Mr. Low had an experience which sounds untrue, but which he says is an absolute fact. "I was standing more or less behind the stand, thinking of anything but engines," he says, "when a most exquisite 'knot' dug his friend in the ribs and asked me a few questions. I replied as best I could to inquiries like 'what carburetter we used,' and then he asked me my name. I said my name was Low. He smiled triumphantly to his friend, and said 'I thought I saw the likeness.' Then he looked at me with an indescribably patronizing air, and drawled out: 'You can tell your father his engine is a good thing!' I know I look about half my real age, but if this sort of thing continues I shall grow a Rip Van Winkle beard."

A surprising number of ladies have wanted to see the engine, and one of them asked Mr. Low very nicely "if it was not rather hard work for the rotary valve to drive the crankshaft."

The exigencies of space have delayed the publication of many remarkably interesting features. They will appear in succeeding issues of THE CYCLECAR.

Interesting descriptions of cyclecar tours, personal experiences, and the results of accurate running-cost computations for publication in THE CYCLECAR are welcomed.

Two typographical errors may have given a wrong impression to the reader of our second editorial ("Topics of the Week") in the last issue. What was intended is that, in our opinion, a greater speed than 25 m.p.h. for a cyclecar is undesirable, and not even desired, but sufficient power to ascend severe gradients on a low bottom gear is necessary.

NEW CYCLECARS.

The H.C.E. with Enclosed Belt Drive and Underslung Frame.

SEVERAL novel features are to be found in the H.C.E. cyclecar, to be placed on the market shortly. The engine is a single-cylinder 6-8 h.p. Buckingham, which we described in the last issue of THE CYCLECAR, and is fed by a B. and B. or Binks carburetter according to choice. Two chains transmit the power to the two-speed countershaft, on which two cone clutches are mounted, connected together in such a way that only one can be engaged at a time. Enclosed belts, placed inside the frame, convey the drive to the rear wheels, the hubs of which are of special design. An uncommon feature in cyclecar design is the underslung frame, which gives a very low position and easy riding. Steering is by duplicated cables working on a bobbin, and two sets of independent brakes are fitted, the hand lever con-

trolling those on the back wheel belt rims, while internal-expanding brakes on the front wheels are applied by a pedal. A highly-polished aluminium dummy radiator is utilized as a petrol tank, and the throttle is coupled to an accelerator pedal.

The wheelbase is 7 ft. 6 in., while the actual length of the machine is 10 ft., and the wheel track 4 ft. Several types of body can be provided, including a semi-racing sociable, which sells for 99 guineas, and a four-seater, the price of which is 160 guineas.

The makers, the Stanley Garage, of 21, Kramer Mews, Earl's Court, London, S.W., are also bringing out a model similar to the foregoing, but with a different transmission system. In this model friction drive from the flywheel is employed, while the live back axle is driven by an overhead worm gear.

NOVEL SPRING DRIVE.—GEARBOX AND BACK AXLE IN ONE.

MARSHALL, ARTER AND CO., Beaver Lane, Hammersmith, W., have been perfecting for some time a cyclecar which formerly went by the name of the Q.E.D., but has now been rechristened



The Marshall-Arter transmission by steel spring. The casing is only held at one end, and thus the give of the spring provides a very flexible drive.

the Marshall-Arter. The power plant consists of an 8 h.p. twin-cylinder J.A.P. engine, water-cooled on the thermo-siphon system, which proves entirely efficient, even without a fan, as all water pipes are duplicated. A large external flywheel constitutes the outer member of the cone clutch, the inner half being lined with leather. A special patented spring drive is interposed between the clutch and back axle, consisting of a long, flat, straight spring revolving in a casing. The drive is particularly smooth, owing to the manner in which this spring absorbs all sudden jerks. Half-way between the axle and engine the spring casing terminates, while the drive is conveyed to the former by a universally-jointed cardan shaft. The gears are incorporated in the back axle, the lay-shaft being parallel to the axle. This arrangement allows a neat design, and gives two speeds forward and a reverse.

Orthodox car practice is followed in almost every other detail except in the frame, which is constructed of ash. Quarter elliptical springs are used both fore and aft, while these are mounted in such a way that they are horizontal in their normal position. This method gives very easy riding, and eliminates any tendency to rebound. Steering is effected by encased bevels and controlled by a wheel of large diameter.

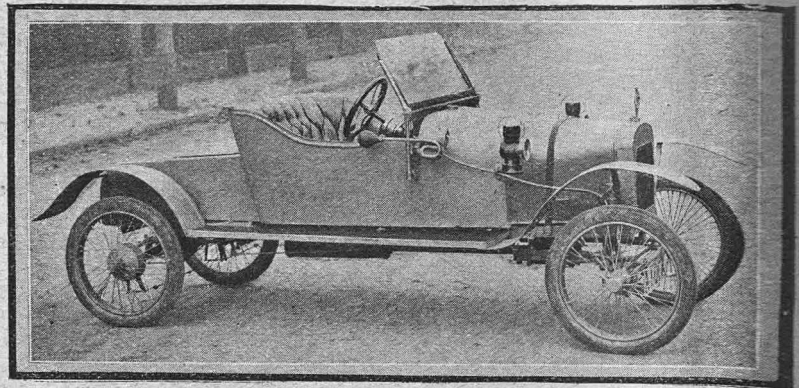
Undoubtedly the most novel feature in this design is the spring drive, which absorbs the engine impulses effectively, thereby transmitting a more constant torque to the driving mechanism. The action of the device is simple. The ends of the tempered steel plate twist relatively to one another when power is applied to the driving end, and, in consequence, the uneven impulses of the engine are smoothed out, as it were, before they reach the

other extremity. The bar is also capable of bending in one direction and swivelling in the other, which allows it to give in both planes and conform to the whip of the chassis. To enable the steel casing to give slightly, it is supported on spherical ends, and at the same time it is kept laterally rigid by means of the semi-circular wood blocks placed in the centre.

The machine is of pleasing appearance, and the body provides a maximum of comfort for two people. The price is £135.

New Carburetter Jet.

A new vaporizing device for carburetters has recently been brought out by the North London Garage, Corsica Street, London, N. It is designed to screw on to the top of an ordinary jet, and consists of a number of tiny sprays communicating with the main jet and set at an angle of 45 degrees to it. It is said that this device increases economy and ensures easy starting and slow running.



The Marshall-Arter cyclecar, which has an ash frame, patent spring drive and other novel features described above.

G.N., Ltd., have informed us that in the standard model the engine is parallel with the frame, and also that the cable for steering is fixed to the drum, and is not held by friction.

The Sutton Coldfield reliability trial for cyclecars, previously referred to, will take place on Saturday, 21st December. Entries must reach the secretary, 122, Colmore Row, Birmingham, by the first post Tuesday morning, 19th December. It is to be hoped that it will be well supported.

THE CYCLECAR WORLD (contd.).

A new craze is sweeping over Paris in children's cyclecars. They have tiny engines and run at five to eight miles an hour.

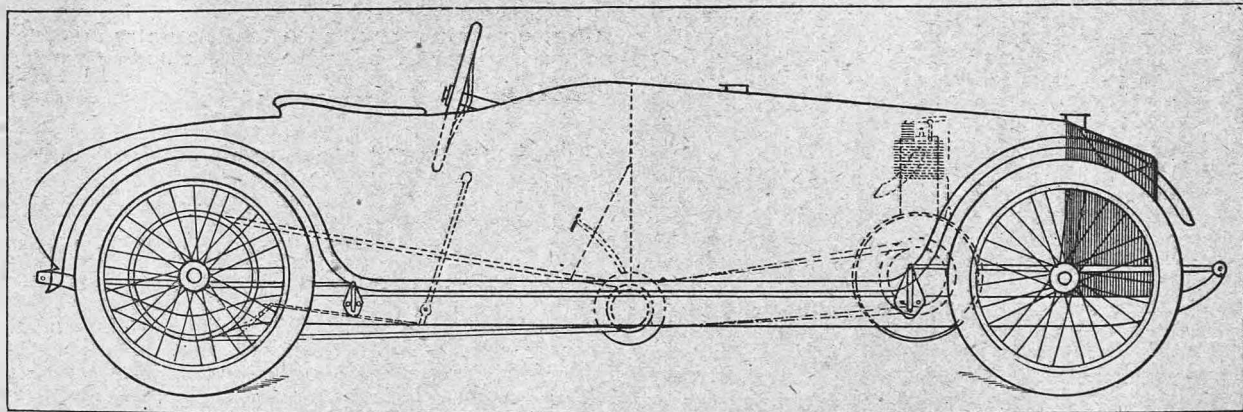
Those intending to visit the Paris Salon, which remains open this week, will find that, at this time of the year especially, the short sea route via Dover-Calais or Folkestone-Boulogne is the most comfortable. The return fare second-class is 37s. 6d. Tickets at these reduced rates will be issued on Friday and Saturday, 13th and 14th December, and will be available for 15 days.



The scene outside the Hut Hotel, Wisley, on the occasion of the first run of the Cyclecar Club. (See next page.)

Cyclecars in the London-Exeter Run.

There are a number of cyclecar entries for the M.C.C. London-Exeter trial at the end of Christmas week, 27th and 28th December. The cyclecars entered at present are three G.W.K.s, to be driven by Messrs. C. M. Keiler, R. R. Rothwell and G. F. Parsons; three A.-C. Sociables, driven by Messrs. P. Evans, H. G. Dixon, and J. L. Love; a G.N., driven by Mr. Osmond Hill, joint secretary of the Cyclecar Club; a Morgan, to be handled by Mr. H. F. S. Morgan; two Duos, driven by Messrs. G. Pitcher and R. F. Messervy; a Humberette, entered by Mr. S. W. Philpott; a Matchless (Mr. H. E. Tamplin); a Crouch (Mr. Robertson Browne); a Pinnacle (Mr. A. P. Hann); a Singer (Mr. A. J. Dixon); an L.M. (Mr. H. G. Chester); a Gordon (Mr. E. Catt); and a Premier (Mr. A. Walden). The start is at 7 p.m. from Hounslow on 27th December.



The H.C.E. single-cylinder, belt-driven cyclecar, with underslung frame. It is described on the previous page.

Mr. Charles Jarrott and the Cyclecar.

Speaking at the 11th annual dinner of the Motor Cycling Club, on Saturday evening, Mr. Chas. Jarrott said that he must refer to a new development in motoring—the advent of the cyclecar. Someone had very unkindly termed the cyclecar an imitation car for imitation motorists, but he would not follow this example. The cyclecar had yet to go through many trials and tribulations before achieving the same level of perfection as the modern motor-bicycle. As to whether there was room between the high-grade motor-bicycle and the cheap motorcar he would not prophesy, but the fact remained that the cyclecar had attracted a vast amount of attention and was going to lead to fresh trials and competitions.

“Thoughts and Opinions.”

As the whole paper cannot close for press at one time, it is necessary to complete certain pages in advance of others containing news. Many letters, therefore, are unavoidably held over for the issue of the following week. Readers are particularly requested to condense letters intended for publication into as few a number of words as possible, and to write on one side of the paper only.

Few Cyclecars at the Salon.

It will be gathered from our report of the Paris Show that the display of cyclecars is not to be compared with our own at Olympia little more than a week ago.

The opinions of Frenchmen on the future of the cyclecar are rather contradictory. The general idea, however, seems to be that it will develop more on car than motorcycle lines. Foreign designers we interviewed are not in favour of air-cooling, seeing that when long, light-hill-climbs have to be faced, only a water-cooled passenger machine will successfully do the work. At the same time, a very great deal of attention is undoubtedly being paid to the cyclecar. We heard of several foreign motorcycle concerns who are seriously considering the proposition. Cyclecar engines are the next item on the programme of more than one Continental manufacturer. What struck us as interesting was the fact that the word cyclecar is already well known and understood on the Continent, which, seeing that it is only of quite recent introduction, is somewhat curious, whilst the fact that several manufacturers showed baby four-wheelers for children's use is also an interesting augury.

THE FIRST RUN OF THE CYCLECAR CLUB.



Cyclecars lined up outside the Hut Hotel, Wisley, at the first run of the Cyclecar Club on Saturday last.

A motorbus turned right round to look at us. Taxicabs thought they should give way, sidling down to the kerb in their best Saturday morning style. A pair of equine thoroughbreds stood upon their hind legs and pawed the air with delight. A tram driver pulled up his house on wheels with such a jerk that the passengers were shot on to the floor. A portly pedestrian, making his fourth attempt to cross Piccadilly Circus, bathed in the mud instead. Even the man on point duty put an electric-light standard between himself and the peril of the streets. And then we passed.

The roar of the eight-horse J.A.P. swept up the torrent of abuse that marked our passage as we churned through a sea of slimy, yellow mud that made the heart of the stoutest taxicab driver turn faint. Not so the heart of our duocar as we rocketed over the greasiest streets of south-west London. Beyond Putney we picked up a G.N. and, as one cyclecarist to another, hooted merrily, trod on the accelerator pedal and gave the "glad-eye" for a speed exhibition up Putney Hill. The G.N., being in the hands of some reckless young fellow, won easily, and we considered, as we picked up various cars one by one, that their drivers were not looking too pleased about it. Later on, the G.N. enthusiasts were discovered warming their hands by the roadside. So hastily referring them to "The Cyclecar Manual," and giving a nod to three gloomy-looking gentlemen in charge of a "measured furlong," we made Kingston, Ditton and Esher without incident.

At Esher, the G.N. came roaring by triumphantly. At the Bear, a Duo-ist was observed taking in "home-fuel." Presently he, too, came to the front to give us an exhibition of skilful driving which we took to be a display of figure-skating.

At Wisley Hut, the venue of the first run of the Cyclecar Club, there were already half-a-dozen arrivals, besides an equal number of motorcarists, who gathered round to gaze awe-struck at slackened belts resting in the mud.

"Aren't they awful?" said one. "How they drive with belts hitting the ground beats me." We informed him that we had the wind behind.

Every few minutes another arrival would perform the customary finishing sprint and brake test, until there were nearly two dozen machines lined up by the roadside. These included five Duos, three G.N.s, three Humberettes, two G.W.K.s, Parnacott's quaint-looking "ironclad," an A.-C. Sociable, an Autotrix, an Averages, a Sherwin, and a Bedelia, besides several of the home-made variety.

Had there been an "appearance" prize, it would have been divided between Higgs (whose beautiful lilac-hued G.N. was almost spotless, thanks to a neat arrangement of auxiliary wings) and the passenger who had been used as a mud shield on an experimental Duo, the front or the back of whose head could only be made out by his overcoat buttons.

Some 30 members and friends sat down to lunch in an apparently very subdued frame of mind, for was this not a very sedate and historic occasion? One lady member (there are two altogether) was present. Having been disappointed in the delivery of a new cyclecar, she had cycled down to the run.

After lunch, half the party followed the Rev. E. P. Greenhill's G.W.K. over the Surrey hills, in response to his invitation to take tea with him at Walton-on-the-Hill. Up, up, through winding lanes we sped, Thomas's big G.N.—"Hippo-Thomas"—scattering mud 40 ft. behind it, and drowning all remonstrance with a bark that could be heard for 10 miles. Keeping discreetly out of range, we had a wonderful vista of a long procession of the low-built, rakish-looking cars winding over the hills. Every now and then a dip in the road would shut out a view of the procession, and then, far off, we would spy it once more, speeding swiftly up the opposite slope.

A driving mist of rain swept across the country, but what cared we as we tore over squelching roads with the crackle of a score of exhausts in front to guide our way and promise company at the journey's end? The spiritual joy of the new motoring makes light of fleshly ills.

It was dusk when we pulled up and joined the thronged tea tables.

Our last glimpse of the first run of the Cyclecar Club was of "Hippo-Thomas" roaring through the night, silhouetted against the wide arc of its searchlight. Suddenly, "Hippo-Thomas" threw up its back wheels and disappeared from view! It had shot clean across the main road and into the ditch on the other side! Fortunately, it does not require a crane to haul a cyclecar out of difficulties, and two lusty cyclecarists made light work of pushing "Hippo-Thomas" back on to the road again. We let the big G.N. light the way, keeping to the sodden road with difficulty, speeding north and homewards through streaming rain, damp, happy, and thrilled with the joy of a wild cross-country drive.

The Cyclecar Club had carried out its first run and made history.

Christmas Week.

The issue of THE CYCLECAR published in Christmas week will be on sale everywhere Tuesday, 24th December, and will be obtainable in London on Monday afternoon.

The Origin of "Cyclecar."

At last the secret is out. We suggested last week that the authorship of the word "cyclecar" was generally attributed to Col. Holden. The author, however, was Major Lindsay Lloyd, Clerk of the Course at Brooklands. It was put forward by Major Lloyd at the joint committee of the R.A.C. and A.-C.U. over which Col. Holden presided, and after a full discussion was accepted.

The Cyclecar

Wednesdays—1d.

Conducted by EDMUND DANGERFIELD.

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"THE CYCLECAR" TRIALS.

It is our intention to give practical trials of, and fully report on, various makes and types of cyclecars. If possible, the first of this series will appear next week.

NOTICES.

Letters.

EDITORIAL Communications should be addressed to The Editor, "The Cyclecar," 7, 9, 11, 13 and 15, Rosebery Avenue, London, E.C.

Letters relating to ADVERTISEMENT and PUBLISHING Departments should be addressed to The Manager.

Press Times.

IMPORTANT LATE NEWS and Photographs can be accepted up to first post Monday morning for insertion in the following Wednesday's issue.

ADVERTISEMENT COPY, Blocks, &c., should come to hand by Wednesday morning to ensure careful attention and allow time to submit proofs, except when an earlier time is specified.

Return of MSS., &c.

Drawings, Photographs and MSS. not suitable for publication will be returned if sufficient stamps are enclosed for this purpose, but the Publishers cannot hold themselves responsible for the safe keeping or return of contributions.

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Advertisements of Cyclecars for Sale, new or second-hand, Sundry Announcements, and Rates for Advertisements, will be found amongst the end pages.

Topics of the Week

A MATTER that ought to be given immediate consideration is the question of providing a special Show for cyclecars. Had the suggestion been made six months ago it would have been ridiculed. Very few people realized the extent of the cyclecar industry and the public interest in the new motoring until the doors of Olympia opened on the 25th November, and No. 1 of this journal upset preconceived notions. By next November there may be something like 100 manufacturers anxious to exhibit cyclecars at the Show, and if they are exhibited at the Cycle and Motorcycle Show it will only be to the great disadvantage of motorcycle exhibits. *It is not that people will refuse to buy motorcycles, but so many novel features in cyclecar design compel the attention of the mechanically-minded, even if they have no actual interest in their purchase, that less time is afforded for examining the motorcycle exhibits. We trust that the Cycle and Motor Cycle Manufacturers and Traders Union will give this problem attention and endeavour to arrange for cyclecars to be exhibited in a special hall at a time which does not clash with the Motor or the Motorcycle Shows.

*A Separate
Exhibition.*

THE question of transmission is the most difficult problem which the designer of a cyclecar has to solve. At the present time there are four distinct systems which he can adopt, either combined with each other or alone. They are transmission by shaft, chain, belt, and friction drive. Those designers who favour the shaft realize that this is a well-tryed system that has already proved its worth on the motorcar. A large section of the public hold the same view and are in disagreement with those who consider that the belt drive is the transmission of the future for cyclecars on account of its great simplicity and flexibility. Chain drive we may regard as almost a half-way house between the shaft and belt. It is successfully used on motor-bicycles, but has been largely superseded by the shaft on cars. Friction drive, that most interesting of all systems in theory, is now attracting more attention than ever, and, judging by the performance of cyclecars on which it is employed, is eminently satisfactory for vehicles in which horse-power and weight are kept low. Which type or combination of types will be finally adopted by the majority of designers it is impossible to decide at this early stage of the movement.

*Transmission
Systems.*

IF we may judge from the correspondence received, the cyclecar is regarded by commercial travellers as providing a solution of the difficulty of covering large tracks of thinly-populated country in the course of their business. Many of the letters we have received asking for advice on the selection of a cyclecar come from commercial travellers, all of whom, curiously enough, make a special point of two things. First of all they will not consider any type of machine that has not been publicly demonstrated to be reliable and thoroughly practical; and, secondly, they demand a cyclecar which is provided with a certain amount of accommodation for carrying samples, a request with which body builders can quickly comply. The first requirement, however, is not so easily fulfilled. At the present moment those cyclecars that have emerged successfully from the ordeals of the reliability trials of 1912 are few and far between, and it is important that various machines should prove their reliability. In the course of the next few weeks several competitions will be run off, and those makers who have confidence in their productions will be able to take advantage of these trials to demonstrate to the public the efficiency of their vehicles. Next year at least one six days trial is promised, and a road race for standard cyclecars in the Isle of Man is projected.

*Commercial
Cyclecarists.*

THE proposed race for standard cyclecars, which was suggested in our contemporary "Motor Cycling" over a year ago, formed the topic of conversation and discussion at the recent Olympia Show. Whilst there are a few who consider that the movement is too young to warrant cyclecars being subjected to the strain of a high-speed road race, there are a number of others, including manufacturers, who are keenly interested in the race, and would, we believe, be willing to support it with their entries. Those who are not in favour of the scheme have visions of a race in which perhaps out of 30 starters only one or two would complete the course. Such a result they consider would do a new industry great harm. On the other hand, we must remember that the early car and motor-bicycle races always found out a number of weak points in the machines, and that this did not prevent the events from being run. Indeed, one of the objects of holding a race is to discover weak points in the machines, so that the manufacturers can obtain valuable information from their experiences in such an arduous trial.

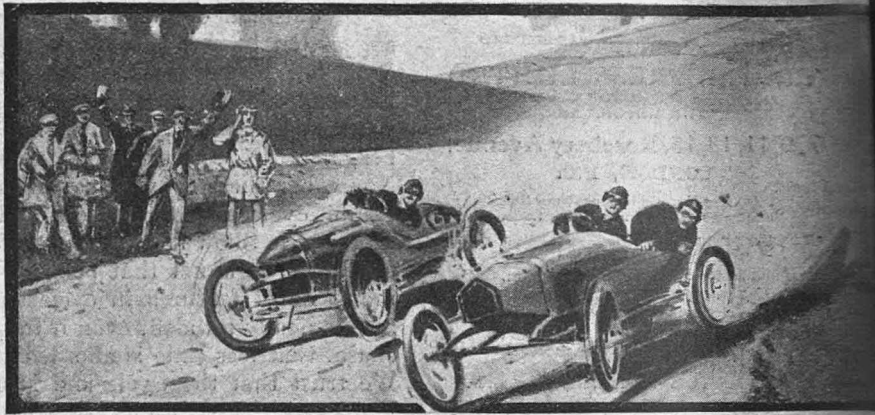
In passing, we may mention that both car and motor-bicycle manufacturers have learned a very great deal from the Tourist Trophy races which have been held in the Isle of Man, and thereby they have been able to improve their machines considerably.

We must also remember that if the cyclecars performed satisfactorily in the race the attention of the public would be focussed upon them even more than it is at present. To-day the majority of the machines are untried. After a cyclecar race people would have something on which to form an opinion as to the respective merits of the various machines. At present, the public are sceptical as to the stability, hill-climbing powers and reliability of many of the cyclecars now made. How much greater would be the interest, and how much larger the demand, when the machines have actually demonstrated, in the severest test to which it is possible to subject them, that they are as stable, as reliable, and as steady up hill as the average large car?

It will be noticed that all along we have laid great stress on the necessity for the race being confined to standard types of machine. This is an important consideration from the point of view of the general public. If they can realize that the machines which complete the course are in most respects replicas of models that are being sold daily to the public, they will follow the results and performances of these machines with far greater interest than if a number of racing freaks with special engines and bodies were competing.

As we have pointed out before, there are two periods in the year when it will be possible for a road race for cyclecars to be held in the Isle of Man. The first is at the beginning of June, at the same time as the Auto-Cycle Union are holding their Tourist Trophy motorcycle races, and the second is in September, when the Royal Automobile Club are said to be holding a two-days light car race. These dates coincide with the beginning and end of the

PROPOSED ROAD RACE Cyclecar Makers Favourable.



Manx season. The advantage of the race being held in June is that the Auto-Cycle Union, the cyclecar controlling body, would have all their organization prepared for the motorcycle races, and would not have to make a special visit to the island for a cyclecar race, which would thus be run more cheaply in June than in September. On the other hand, if the proposed cyclecar race were held in September, it would give manufacturers time to experiment during the summer and perfect their models, which it is reasonable to expect will be better machines all round than in June. Improvement will be so rapid that even three months will make a difference.

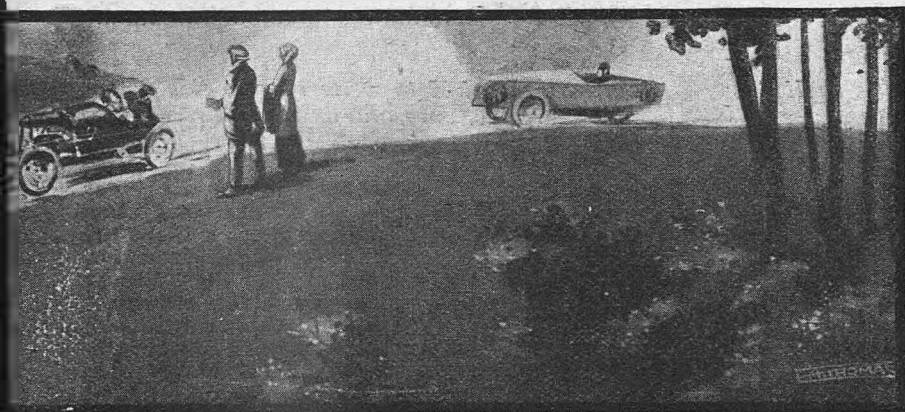
A Race Next June.

Taking everything into consideration, we feel that it would be an advantage to run off the proposed race early in June. Indeed, Mr. W. Brown, of the Isle of Man, has suggested Monday, 2nd June, as a suitable date. He reports that the Isle of Man people would be interested in a race of cyclecars, and that it would not be a difficult matter for the Auto-Cycle Union to obtain permission for the roads to be closed on the Monday as well as on the Wednesday and Friday of the same week when the motorcycle races will be held. Whether the cyclecar race should be run over the same course as the motor-bicycles, that is, the Douglas, Ballacraigne, Ramsey, Snaefell circuit, or whether they should be taken over the old Tourist Trophy course through Ballacraigne, Kirkmichael, Peel and St. John's, it is, of course, too early to say. The Competitions Committee of the Auto-Cycle Union and the cyclecar manufacturers would have to settle this for themselves.

Of one thing we feel sure, and that is, if the cyclecar manufacturers want a race the Auto-Cycle Union would be willing to organize it, but we would point out to the latter that the entry fees must not be too high for the first year, when the industry is in its infancy, and expenses must be kept down. A point which will need most careful consideration deals with the classification of the machines, for obviously it would not be fair for a four-cylinder 1100 c.c. water-cooled machine to compete on equal terms with the 5 h.p. air-cooled model, nor would it be right for monocars and sociables to run in the same class.

STANDARD CYCLECARS.

of such a Race upon Development.



These are, however, minor points in the scheme, and the most important thing of all is the question whether the race is wanted or not. In order to obtain some idea as to the feelings of the trade on the subject, we recently circularized the principal cyclecar manufacturers, asking them if they would support a race for standard cyclecars at an entry fee of five guineas per machine. We give below extracts from letters received from cyclecar makers who favour the scheme and from others who are not.

Favourable Opinions of the Trade.

Messrs. Pickering, Darby and Allday, makers of the P.D.A. cyclecar:—"We consider your proposition, if carried out, would be extremely beneficial to the cyclecar industry. . . . We should endeavour at the very least to enter one car."

L. N. Palmer's Garage, agents for the Bedelia cyclecar:—"I shall be very pleased to enter at least two cyclecars at the entry fee you mention. . . . I think that the idea should be carried out, as it will undoubtedly benefit the movement."

The Arden Motor Co., Ltd., makers of the Arden cyclecar:—"We should probably enter one machine. . . . If such a race is organized, we should like to see it made compulsory that machines should be purely standard machines and not freaks, and each machine to carry a passenger."

Edmunds and Wadden and Co., Ltd., makers of the Autotrix cyclecar:—"If business permitted we should be pleased to support the movement."

The Rollo Car Co., Ltd., makers of the Rollo cyclecar:—"We are not only willing but anxious to enter several cyclecars. . . . It would have the effect of giving considerable impetus to cyclecar trade."

G.N., Ltd., makers of the G.N. cyclecar:—"We think it rather a good idea."

G.W.K., Ltd., makers of the G.W.K. cyclecar:—"If a standard road race for cyclecars in the Isle of Man is arranged for next year, there is little doubt that we should support it, as we have supported most open events during 1912."

The Warne Car Co., makers of the Warne cyclecar:—"At the present moment we are in favour of such a race, and would be prepared to enter a couple of machines."

The Motor Coach Components, makers of the Sherwin cyclecar:—"We would be only too pleased to guarantee as far as we can three entries, and would take pleasure in assisting you in any way."

Crescent Motors, Ltd., makers of the Crescent cyclecar:—"We say decidedly, 'Yes'; we are quite favourable to the project."

Sidney C. Darby, maker of the Darby carette:—"A cyclecar road race would be a very good thing."

E. Jozot, Ltd., agents for the Super cyclecar:—"We should be pleased to enter machines at five guineas entrance fee."

Darby and Weber, Ltd., agents for the M.A.F. cars:—"We certainly would enter some cars in this race, which, if carried through, would prove once and for all the importance of the movement."

Pilot Motors, Ltd., makers of the friction-driven Pilot car:—"We shall be pleased to enter one or two machines provided our machines come within the class."

Duocars, Ltd., makers of the Duo cyclecar:—"A standard road race for cyclecars in the Isle of Man would be an excellent scheme, and we for one would enter several cars."

H. Clarke, the maker of the Invicta cyclecar:—"I should in all probability enter one machine."

The following manufacturers express somewhat indefinite opinions, but are mainly unfavourable.

Singer and Co., Ltd., makers of the Singer light car:—"We are not in favour of the scheme. . . . Possibly a race at Brooklands will be more favourably received."

Auto-Carriers, Ltd., makers of the A.-C. Sociable:—"It is not the slightest good us entering races against cars twice our horse-power if we are to start at scratch, as we did at the last race which we took part in at Brooklands."

The Enfield Autocar Co., Ltd., makers of the Enfield cyclecar:—"We are not keen on a road race for cyclecars. . . . We think a long-distance reliability trial for these machines would be a much better proposition."

The Swift Motor Co., Ltd., makers of the Swift cyclecar:—"We would not be prepared to make any arrangements for entering cars if such a race were organized."

The East Riding Garage, makers of the Gordon cyclecar:—"I should not be able to compete in such a race."

The Beacon Engineering Co., makers of the Beacon cyclecar:—"As our works are likely to be full up for some time to come, according to present indications, we do not feel that we can spare the time that such an event would call for. Not that we doubt it would do wonders to assist in booming the cyclecar movement."

The Rex Motor Manufacturing Co., Ltd., Alldays and Onions Pneumatic Engineering Co., Ltd., and the Premier Cycle Co., Ltd., are entirely opposed to the proposed race, though the latter would favour a reliability trial as being more likely to develop the best type of machine. Taken all round, the measure of support for our suggestion is very satisfactory.

NOTES & QUERIES

Readers' Problems Investigated

by The EDITOR

Legal, touring and technical queries are replied to by post, and a stamped addressed envelope should be enclosed.

Readers are asked to write on one side of the paper only, and to use a separate slip for each question.

A LARGE proportion of my correspondents are commercial travellers, whose queries I am always ready to receive and answer. Cyclecars will be a boon to many, but to the commercial traveller they will be a perfect godsend. The motor-bicycle is undoubtedly a very handy machine, but its rider cannot reach his destination so comfortably and cleanly as on a cyclecar. Another advantage that the cyclecar offers is its capacity for carrying luggage, a feature which is of great importance to the traveller.

WOOD FRAMES. "Is the ash frame strong enough?" is a question from Scotland. Certainly it is, if the dimensions of each member in the frame are sufficiently large and if the joints are suitably armoured with steel plates. The majority of belt-driven cyclecars employ this method of construction, which gives every satisfaction. The use of the wood frame is not solely confined to cyclecars, and it might interest readers to know that the frames of some London General omnibuses are so constructed; but, naturally, they are armoured throughout their entire length. Anyone contemplating the building of a machine himself should certainly not embark on a channel-steel frame, because alterations will probably suggest themselves, and nothing is harder to manipulate than this material. Tubing would certainly be preferable for the amateur builder, if he cannot for some reason or other employ ash.

OVERHEAD VALVES. The question of the efficiency of overhead valves arises this week. This system has many advantages and disadvantages, but, like everything else in the mechanical world, the design followed makes it either a success or a failure. One of the most important points in connection with the design is the provision made to prevent damage to the cylinder or piston in the event of breakage. Every overhead valve should have some kind of cage for this purpose, but it should be so constructed that it does not hinder to any large degree the ingress of gas to the cylinder. Another refinement that should be insisted upon is a separate valve seating. This allows the complete valve to be removed, a proceeding which reduces valve-grinding trouble to a minimum. A careful inspection should be made by anyone purchasing an engine with these valves to see that no rattle is made by the various rods and levers. So far as engine power itself is concerned, overhead valves give the best results, owing to the fact that the mix-



Turning in almost its own length. An illustration of the wide lock on the Sabella tandem cyclecar.

ture and exhaust gases enter and leave the combustion chamber direct without the necessity of following tortuous bends. The efficiency of an engine depends on the rapidity with which fresh charges of gas can be supplied and the burnt gases swept out of the cylinder, hence overhead valves are usually necessary to extract the maximum of power from an engine.

RUNNING EXPENSES.

FROM London-derry, "R.T." asks what would be a fair sum to charge his firm per mile for running expenses if he purchased a three-wheeled cyclecar for business purposes. Many readers may be in doubt as to the amount. Various particulars must be taken into account: for instance, type and age of machine, condition of roads where it is to be used, and the treatment to which it is to be subjected; all these items have a very considerable bearing on the subject. The amount may vary between 1½d. and 3d. per mile, but in most cases the happy medium of 2d. per mile may be taken as correct.

STABILITY TEST.

An erroneous idea is abroad that cyclecars are unstable, especially if they are three-wheelers. This delusion—and it is nothing more—is the result of experiences with the old motor-tricycles, which certainly provided their riders with a large amount of excitement. A short time ago I had this question of the stability of the three-wheeler brought vividly to my notice. I had run down to Cobham one afternoon with a passenger, and we were just starting off when a friend passed by going well over the legal limit on a Morgan. He saw us too late to pull up; but, without appreciably slackening speed, he turned round at a pace which scarcely looked safe, but all three wheels kept to the road, though the springs allowed the frame to cant over slightly.

AGE LIMIT.

"T.A.C." writes from Harrow: "Is it lawful to drive a cyclecar when one is over fourteen years of age?" It is and it is not! A cyclecar may have three or four wheels, but in the eyes of the law all three-wheeled vehicles are motor-tricycles, the driver of which must be over fourteen years of age. The case of the four-wheeler is different, for the age limit for this class is seventeen. It follows, then, that three-wheelers are the only kind of cyclecars that may be driven by persons between the ages of fourteen years and seventeen years.

CYCLECARS AND BABY CARS AT THE PARIS SHOW.

Curious Development in Children's Miniature Cyclecars.—New Automobilette Single-seater.

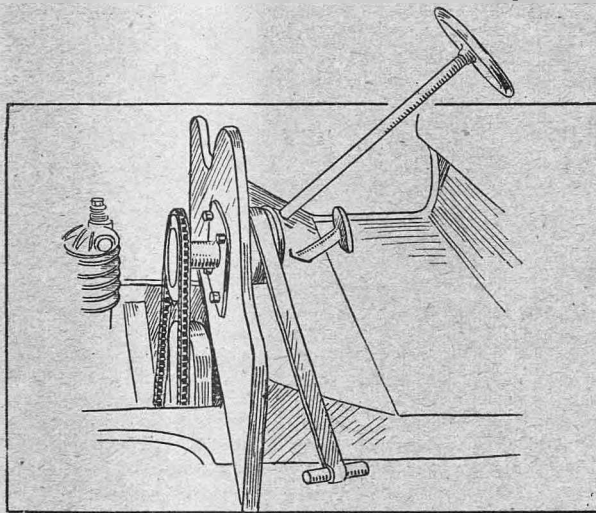
THOSE who visit the annual French Motor Show which is now being held at the Grand Palais, Paris, in the hope of finding a large number of interesting cyclecars will be grievously disappointed, for from the point of view of the new motoring the great French Salon is not worth a visit. Only three genuine cyclecars are shown, and all of them are known in England, their names being the Bedelia, Super and Automobilette. All three of these machines are constructed on similar lines, being belt-driven four-wheelers. Higher up the scale we have what the French designer seems to be giving an increasing amount of attention to—the light voiturette, which is in reality a small car both in weight and appearance. Such machines as the Cohendet and Violette come within this class, whilst at the other extremity we find curious little four-wheel model cyclecars suitable for children. These tiny machines are made to run under power, and a speed of five to eight miles an hour is claimed for these miniature air-cooled engines.

But, generally speaking, the cyclecar side of the Salon is disappointing after our own Olympia Show. Not only is nothing like the number of machines of this particular class to be seen, but design seems to have sunk into a groove, and the general lines of French cyclecars approximate to each other very closely. Probably the Bedelia is the best-known machine of French make in this country. The polished

to such features as the movable back axle and variable pulleys on the countershaft is the Automobilette, made by A. Coignet and J. Ducruzel, 34, Quai du Point-du-Jour, Billancourt, Seine. This is a really well-made and solidly-constructed vehicle. In spite of this, one can easily lift either end of the chassis from the ground. Two models are made, one having a water-cooled single engine and the other a two-cylinder unit, which is also water-cooled. Seating accommodation can be arranged tandemwise for one, two or three persons. An extraordinarily smart monocoar was shown fitted with a two-cylinder engine, chain drive to the countershaft, and variable pulley drive through belts to the back axle. The finish on this particular machine was excellent, a large, well raked wheel, without the slightest appearance of flimsiness, being let into a nicely-polished dashboard. On another model the two-cylinder engine is set transversely in the frame, and the starting handle is placed in front, being geared up to the engine shaft. In this case, therefore, the drive from the engine to the countershaft is not by a chain but by a shaft to a neat little bevel gearbox.

Belt Drive with Reverse Gear.

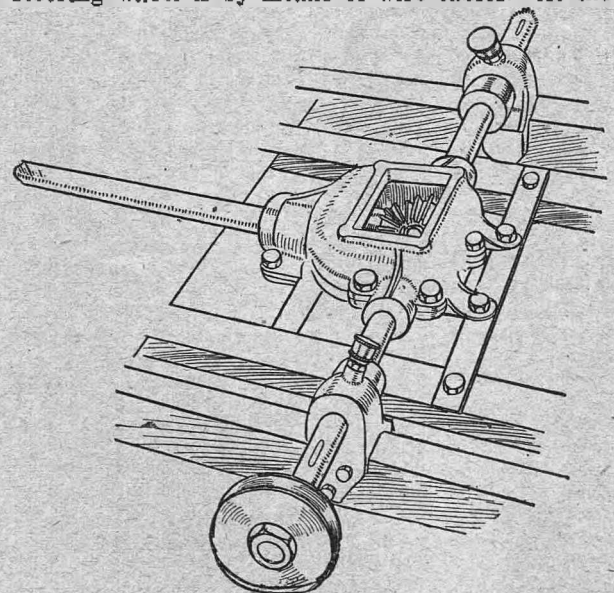
On the ends of the countershaft are placed the variable pulleys, and it is interesting to note that in this case a reverse is fitted by bringing another bevel gear into communication with the driving pinion from the engine shaft. The frame of the Automobilette is of armoured wood, the inside members being armoured throughout their entire length and braced by curving outer pieces. The front of the chassis leads up to a point where the central pivot steering and front spring are accommodated. The front axle is not only free to move up and down against the front coiled spring, but it can also move radially round its anchorage so as to allow each wheel to rise independently. The connection from the extremities of the axle to the bobbin at the foot of the steering wheel is by means of wire cables. At the



Method of starting up the Baby Auto by means of a strap which revolves the geared-up sprocket inside the bonnet and drives the engine through a chain.

chassis, which attracted so much attention at Olympia, is shown again in Paris. The commercial model, with sample case in place of the front seat, is also interesting. The engine on this machine is fitted with a fan driven by a flexible shaft off a pulley, which in turn is driven by a round leather belt by the engine shaft. The fan is placed horizontally in front of the front-cylinder and is not set at the side of the engine, as are fans on the majority of English cyclecars. At present it is interesting to note that the company is turning out 10 machines a week, a large percentage of which goes to England. Next year, when the spring comes, they hope to do still more business, both in France and in England.

A machine which follows Bedelia lines in regard



The bevel drive and shaft on the new Automobilette. Two driven pinions are fitted on the countershaft which carries the variable pulleys, one providing the forward speeds and the other the reverse.

PARIS SHOW (contd.).

present time this interesting machine is not represented in England, so that it would appear to be a good opportunity for some enterprising agent to do business. Between 300 and 400 machines are to be made in 1913.

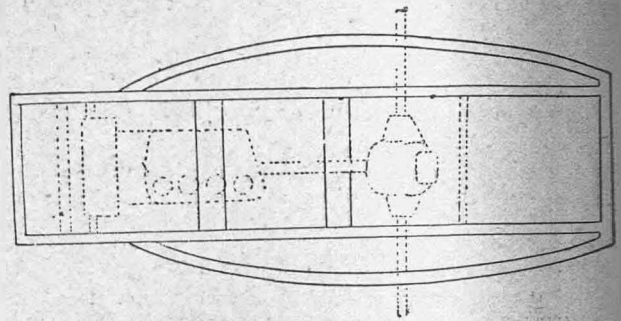
The last of the three cyclocars exhibited at the Salon is the Super, which is already well known in England. On this speedy little mount the seats are arranged tandem fashion, and, unlike that of the Bedelia and Automobilette, the steering is controlled from the front seat. A single-cylinder water-cooled Anzani engine, with automatic inlet valve, supplies the necessary power, though we remember that on the machine shown at Olympia a twin engine was fitted. The machine is probably one of the lowest and raciest-looking cyclocars at present being constructed. The concern responsible for its production are in a large way of business, being also makers of the Ruby car, and it is possible that if the Super meets with the success it deserves, they will be able to turn them out in large quantities. Control, as on the other machines which we have mentioned, is by variable pulleys and movable back axles. Car type of steering is used on this machine.

The Voiturettes.

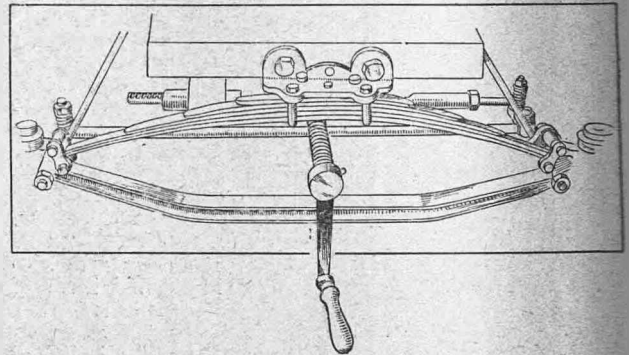
Having described the real cyclocars, we will now turn for a moment to the more complicated, heavier and more expensive types of machine. The Dorey is an example of the halfway house between the cyclocar and the voiturette. It is fitted with a big V twin, air-cooled engine set transversely in the frame, and driving through cone clutch, gearbox and shaft to the back axle. The frame is of pressed steel, and, indeed, the whole machine follows car practice with the exception of the air cooling of the engine, the latter being assisted by a large fan placed directly in front of the valves. In addition to this machine, we have others like the Violette and Cohendet, which approximate still more closely to the small car. Both these machines are friction-driven. The former is equipped with a single-cylinder water-cooled engine and chain drive to one back wheel.

Children's Cyclocars.

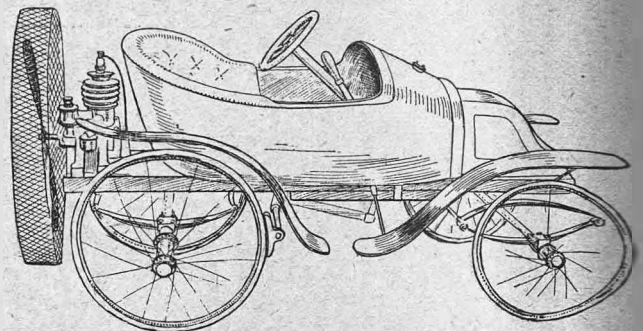
As a striking contrast to these machines, as well as to the real cyclocars, we have such machines as the Baby Auto and propeller-driven Auto Simplette. The last-named machine is made by Pierre Pestourie, 53, Rue Langier, Paris. These machines are model cars built for children to drive. What their introduction signifies we are at a loss to understand. The Auto Simplette is fitted with a tiny two-stroke engine, which is carried over the rear axles and behind the bodywork of the machine. It drives a 2 ft. two-bladed propeller, which is encased in a wire cage, and is said to propel the machine at a speed of 5 m.p.h.. When the machine is running downhill the speed is governed so as not to exceed the 5 m.p.h. The only method of controlling this curious little toy consists of a hand-applied brake, which come into action on the solid rubber covering on the rear wheel. A machine on somewhat similar lines is the Baby Auto. Here we find a small air-cooled engine of 1½ h.p. to 2 h.p., fitted under a tiny bonnet, and driving by shaft to the back axle. The method of starting this machine is interesting. On the dashboard is a shaft, on one end of which is fitted a sprocket, which is connected to the engine shaft by a chain. On the other end of the shaft, which lies parallel with the main driving shaft, is a pulley round which one can wind a leather strap. To start the engine one pulls out the leather strap, which revolves the engine a number of times, seeing that it is geared up to the countershaft. The price of this machine is under £40.



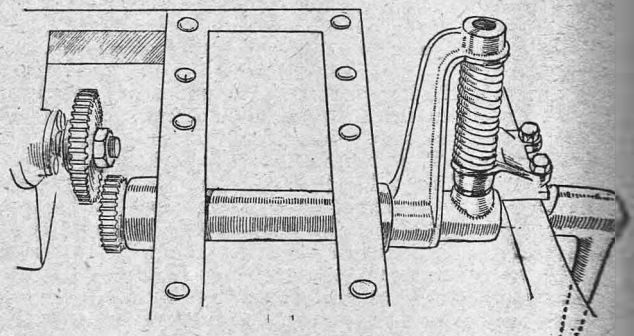
The frame of the Automobilette is made of wood, the inside members being reinforced throughout with steel plates.



Front springing and steering-gear arrangements on the Dorey cyclocar.



The propeller-driven Auto Simplette. The power unit is an air-cooled two-stroke engine, and the average speed is five miles per hour.



Geared-up starting handle on the Automobilette. The drawing also shows the front spring and axle which is free to move radially at right angles to the direction of travel.

TIME AND TROUBLE SAVED.

Wayside Adjustments
: : and Repairs. : :

THIS WEEK'S HINTS.
Easy Starting—Air Locks—
Easy Cleaning—Tabloid Tips.

Practical Hints from
: : Readers. : :

Air-Locks.

THERE is no more baffling trouble on a cyclecar than air-locks in the fuel system. The filler cap on most petrol tanks is provided with a small pin-hole in the centre to allow air to enter the tank to occupy the space left vacant by the petrol when flowing to the carburetter. It occasionally happens that this hole becomes clogged so that no air can pass. The fact that air cannot enter will prevent the petrol from flowing. The engine will run erratically and finally stop. After a short wait, it will sometimes be found that the engine will start again, and the reason for this is that sufficient air has leaked into the tank to cause the petrol to flow once more to the carburetter. Care should therefore be taken that the air-hole is kept free and unstopped. If there are sharp bends in the petrol pipe air may collect in these, and so stop the flow; but it is possible to restore the flow by blowing into the petrol tank through the filling orifice. This will produce pressure on the petrol, and should force it through the pipe. This trouble may be prevented by having a good fall between the petrol tank and the carburetter, and by avoiding sharp bends.

G.A.

Easy Starting.

DIFFICULTY is sometimes experienced in starting the engine, and it may be of interest to explain the methods of obtaining easy starting. If the cylinder is charged with a fairly rich mixture, and this mixture is properly ignited, the engine is bound to start. If the engine is of the air-cooled type a very thick or viscous oil is necessary. Consequently, if the engine has been standing for some time, the piston will be "gummed up," and will be very stiff; a few drops of petrol should be injected into each cylinder through the compression taps. This frees the piston, and on the compression stroke any petrol remaining is vaporized and enriches the mixture. The carburetter should be flooded, and the engine cranked over several times, with the switch off, in order to charge the cylinders with mixture, the throttle being partly open and all extra air shut off. If the switch is then put on, and the starting handle is pulled up sharply over compression, the engine should start. It is of great importance that the handle should be pulled up sharply, as otherwise the spark at the plug points will not be strong enough to ignite the mixture if magneto ignition is used. The whole of the electrical system should be kept clean, and the platinum points in the contact breaker should be adjusted correctly. The plug points should also be clean, and set close together for easy starting. If magneto ignition alone is used, a geared-up starting handle should be provided, that is, the crankshaft should be rotated faster than the starting handle, as it is of great importance that the magneto armature should rotate quickly in order to produce a hot spark sufficient to fire the charge. If an automatic carburetter is employed, do not open

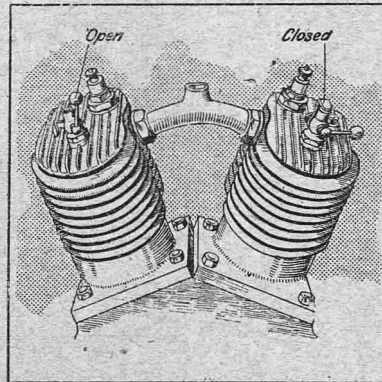
the throttle too far, or the mixture will be too weak to ignite. By experiment, the position of the various levers for easy starting will be found, and should be carefully remembered.

G.C.S.

Easy Cleaning.

ONE immense advantage that the simplest type of cyclecar has is the ease with which it can be cleaned. One can turn a hose on it to remove the worst of the mud. Axles, springs and wheels are easily cleaned with a spoke-brush and water. The upholstery is usually of Pegamoid, or some similar waterproof material, over which a damp rag can be passed. Care should be taken not to let any water get into the carburetter.

A.C.



The compression taps of a typical air-cooled engine. Pouring a few drops of petrol into the cylinders through the taps to obtain easy starting is a "tip" referred to on this page.

TABLOID TIPS.

Never let the engine race, nor keep it running for a long time while the machine is standing still.

Listen to the beat of the engine, and by means of the accelerator pedal or throttle keep it at a steady speed.

Be very gentle with the steering when travelling at high speed, as a very slight movement of the steering wheel will send a machine from

one side of the road to the other. In fact, no driver ought to let any machine out until he is thoroughly accustomed to it.

Those who make their entry into the world of wheels by the purchase of a cyclecar should remember that one of the most important points to pay attention to is lubrication of the engine. With the first supply of petrol order a quart of oil sold especially for air or water-cooled engines, and if the lubrication system is not automatic, see that the engine gets a supply every five miles.

Do not grip the steering wheel too tightly. The danger in doing so is that, in an emergency and on the spur of the moment, too violent a wrench is given to the steering wheel, which will cause the machine to skid and, perhaps, to overturn. At the same time, too light a grip is a mistake, for should the car hit a big stone, the steering wheel will be jerked out of the hands of the driver.

Never take your eyes off the road. The bad driver will make the mistake of looking for his pedals and levers whenever he wants to change gear or put the brake on, and in doing so will probably swerve in his steering, that being the cause of many accidents. The driver must know the exact positions of both pedals and levers by touch, and this is a very simple thing to acquire, if one makes up one's mind to get into the habit of doing it, for, after a very little experience in driving, what to do in an emergency becomes a matter of instinct and requires no thought. Accidents occur through unfamiliarity with the control, e.g., depressing the accelerator instead of the brake pedal.

A COMMODIOUS SHED FOR £8.

By the Rev. E. P. Greenhill.

WHEN the cyclecarist in suburbia contemplates building a convenient and suitable house in which to store his cyclecar, he is too often handicapped by the limited space at his disposal. In many cases the garden has plenty of length for the purpose, but width is often greatly restricted. This will, however, be an advantage if the cyclecar be of the long, narrow, tandem-seated variety, such as the Bedelia, Rollo, Sabella and others, the overall width of which seldom exceeds 3 ft. 6 in., while the total length is about 11 ft., and a "lean-to" shed, against the side wall of the house, will meet the case.

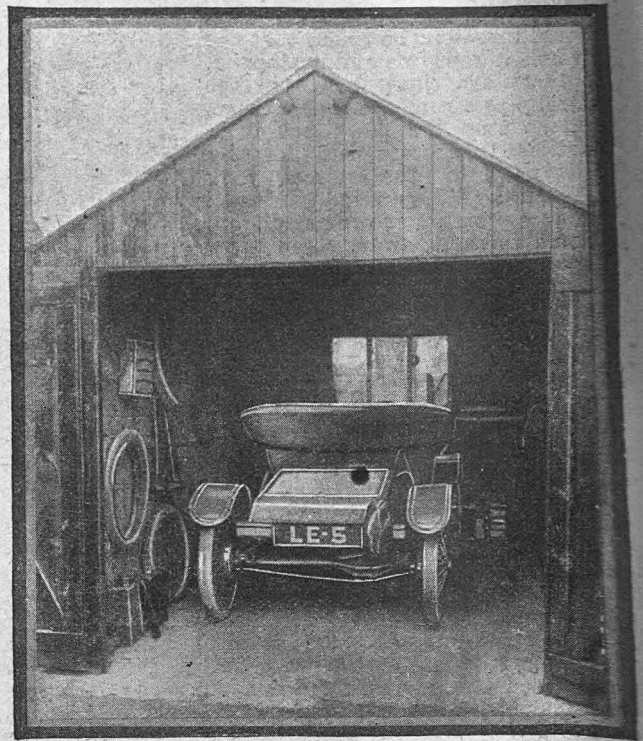
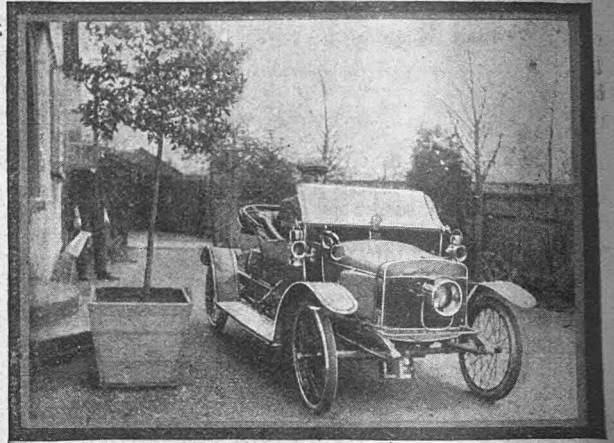
In the present article, the writer proposes to deal with the housing of a somewhat larger type of cyclecar with a length of 10 ft. 6 in., a width of 4 ft. 9 in., and a height, with the hood raised, of about 5 ft. 8 in. For a cyclecar of this size a very convenient and satisfactory garage can be erected for a sum not exceeding £8, including a cement-faced concrete floor, a good bench, a three-light window and double doors.

To construct such a building the following method of procedure must be carried out: Procure a wooden house 14 ft. long by 8 ft. wide by 8 ft. 6 in. high (with a three-light window at the end opposite to the entrance and double extra strong doors 6 ft. wide), made of good yellow deal, tongued and grooved, in seven sections (four sides, two roof plates and a ridge piece). These should be ready fitted and bored with holes for bolting together, bolts, nuts and iron-work being included. The price should be £5 5s., carriage paid.

While the house is on order, obtain the assistance of an intelligent labourer and set out the work for the concrete floor. The measurement of this should be 3 in. more each way than the building to be placed on it (i.e., 14 ft. 6 in. by 8 ft. 6 in.), and, when finished, should slope 2 in. from back to front in the total length. Dig out the soil to a depth of 3 in., put in concrete to nearly 4 in., and finish off, when the latter has set, with a $\frac{1}{2}$ in. facing of best cement. Three bags of cement should be sufficient for the whole of this operation, and, when finished, the floor will be an inch above the ground level, which is an important factor in securing a dry garage.

When the house arrives, place it on the prepared floor, noting how it is numbered for fitting together, and then proceed to bolt the four sides together—this is a two-man job at least—seeing that they are rectangular when finished. Then hoist the roof plates, which, if placed correctly, will fall into recesses cut for them in the gable ends. Stout wire nails, judiciously used will make all firm and strong. Next carefully tack on the roofing felt, taking it well over the joint along the top of the roof. The ridge piece should then be placed in position and nailed down.

Now comes the secret of a dry garage. Procure a piece of sharp iron and mark the cement floor all round on the inside and outside of the house. Then jack up the building some 3 in. or more and set it temporarily on four blocks, one at each corner.



The Rev. E. P. Greenhill's garage described on this page, and his G.W.K. which it houses.

Having done this, put rather more than one gallon of gas tar in an old pail and set it on bricks over a small fire in the garden—it is very dangerous to boil tar in the house—and when hot add sharp sand to it until the whole makes two gallons, well mixing the while. When very hot spread this mixture on the floor between the marks previously made, but not where the door sill will be placed later. This damp course should be about 3 in. wide and fully 1 in. thick. While the black mixture is still "tacky," carefully remove the four blocks from under the corners and allow the floor plate to become embedded in the damp course. If properly carried out, this secures

A COMMODIOUS SHED (contd.).

a perfectly weather-tight joint, whilst it preserves from decay what is always the most vulnerable part of a wooden building.

The door-sill can then be sawn out flush with the doorposts, and two pieces of iron, 1'ft. long, let into the cement 3 in., being secured by 1½ in. screws to the inside of the door-posts, which is necessary to prevent the building from spreading at the bottom. A hole should be made in the concrete in the centre of the doorway, into which is cemented an oak block, 6 in. by 4 in. by 2 in., on to which the double doors may shut and bolt. This block should be about 2 in. above the surface when finished. Two coats of hot

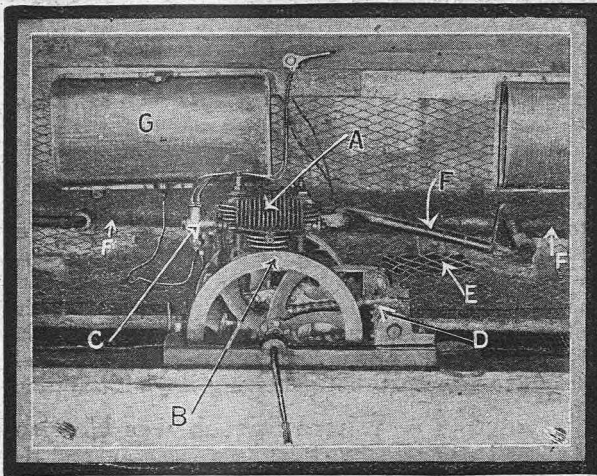
gas tar should be applied to the building. The first coat, if allowed to soak into the wood, makes the second coat dry hard and glossy, and, whilst the tar placed on the roof is wet, dry sand should be sprinkled on it.

A bench 1 ft. 6 in. wide and 8 ft. long, of 1½ in. deal boards, may be made at the far end under the window, whilst shelves, wall pegs and vices should be fitted.

Any handy amateur can erect such a garage as described, doing the work himself, except the concreting and tarring, and find that it will fulfil his requirements quite well for a total cost, including all materials and labour, of £7 18s. 6d. I have recently built such a garage and find it satisfactory.

HOW CYCLECAR ENGINES ARE TESTED.

A Description of the Bench Test of the A.-C. Power Unit.



The A.-C. engine on the test bench. (A) air-cooled cylinder; (B) fan flywheel; (C) carburettor; (D) chain-driven countershaft carrying the dynamometer fan; (E) exhaust pipes; (G) petrol tank.

Some 30 or 40 A.-C. engines are now being turned out every week, and are thoroughly tested six at a time, before despatch. The complete engines, with magnetos and carburetters, are bolted down on a strong framework; from each runs a chain to a ball-bearing countershaft, to which is attached a fan with two blades of about 1 sq. ft. in area. The purpose of this fan is to enable the load on the engine to be increased, so that, although not working up to its full power, it is not running light. A petrol tank and starting handle are permanently fixed in position ready for attachment to each engine as it is bolted down to the bench.

When all is ready, the mixture of petrol and paraffin is turned on, the engine is started, and run for six hours continuously, the load being automatically increased as the engine is speeded up. For the last three hours the engine is run at full load at a speed of something over 1400 revolutions per minute. A test is also made for slow running.

With the J.A.P. automatic carburettor a speed as low as 210 r.p.m. can be maintained, though this carburettor is not being fitted as standard at present, the ordinary two-lever B. and B. being employed. The compression is tested before the commencement of the trial, after running for three hours, and also at 700 r.p.m. It is usually found to increase from 60 to about 62.3 lb. The temperature in the base chamber

is noted at various periods during the trial, and is found to increase from about 150 degrees F. to 160 degrees F. after three hours continuous running at full load. A separate card is kept for each engine, showing full details of its test, with particulars of valve and magneto timing. After the trial, the engine is completely dismantled, and a full report made as to its condition. We may add that seldom is it necessary to make any alterations or replacements.

When the engine has been re-erected it is fitted to a car which has been previously built up in the erecting shop, and is then tested on the road. A record of its performance is kept on a similar card to that used for recording the results of the engine test, on which the following particulars are noted:—Gear, starting, acceleration, speed on level and on test hills, top-speed climb and low-speed climb, petrol consumption, silence, brakes and total load carried. The speed on the level generally works out at 35-38 m.p.h., while Ditton Hill is taken at about 20-25 m.p.h., and Lower Green Road at 15 m.p.h. The low-gear test is carried out on Pebblecombe Hill, near Dorking, which proved a serious obstacle to many riders in the A.-C.U. One-day Trial last March. The petrol consumption is usually found to be between 45 and 50 miles per gallon.

The Four-wheeled Single-seater.

It is evident that the four-wheeled single-seater appeals to widely differing tastes, and we hear that one manufacturer took orders at Olympia for this type from bioscope operators, travelling dentists, golfers, fishermen, and doctors.

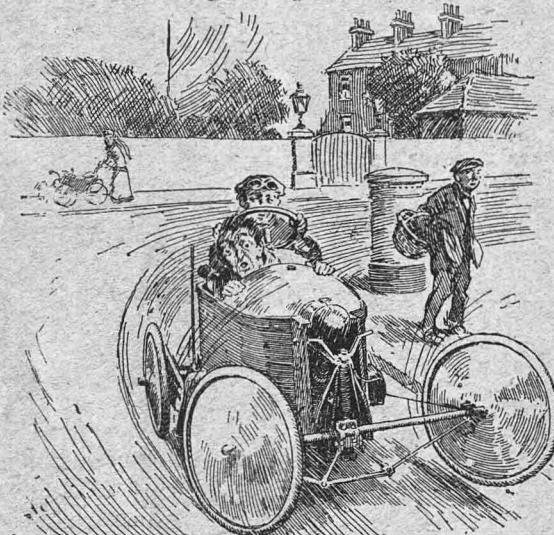
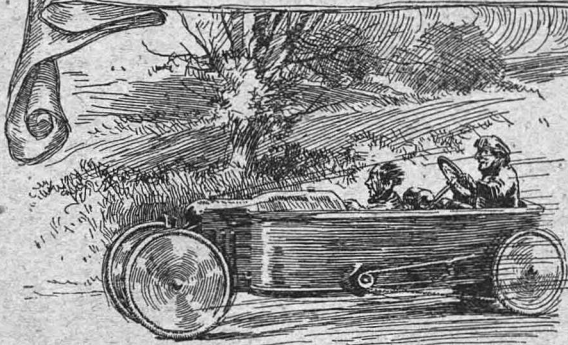
Cyclecar owners can join the Automobile Association and Motor Union for a subscription of 10s. 6d. per annum.

A useful publication for cyclecarists is the illustrated descriptive list of cyclecars issued by Harrods, Ltd., Brompton Road. Many different types are included.

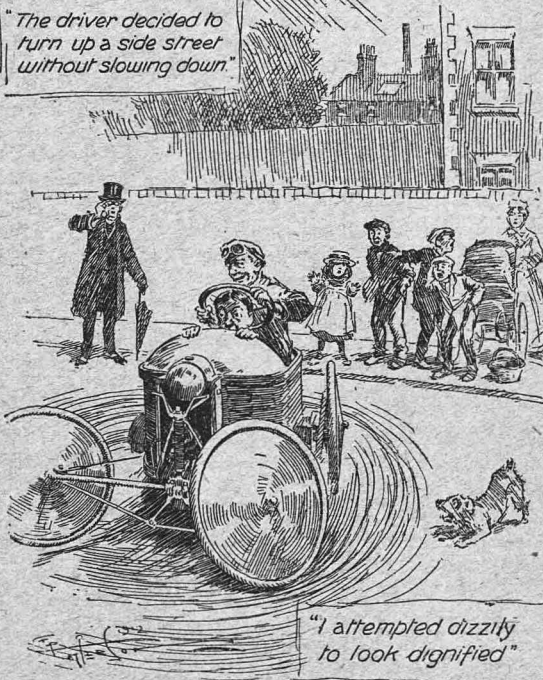
The annual run of the Motor Cycling Club from London to Exeter and back on Friday and Saturday, 27th and 28th December, is sure to be popular with cyclecarists, several of whom have already signified their intention of competing in this arduous test. Full particulars can be obtained from Mr. E. B. Dickson, The Croft, Pinner Road, Northwood, Middlesex.

NERVE TESTS for the UNINITIATED

Impressions of a First Run on a Cyclecar.



"The driver decided to turn up a side street without slowing down."



"I attempted dizzily to look dignified"

HAVING received and joyfully accepted a trial run on a cyclecar, I hurried round to the garage, passing in the yard a small, unpainted tandem-seater, with which I was to be soon more intimately acquainted.

The technical details were briefly explained to me, and my friend then proceeded to start the engine. He unearthed a starting handle from somewhere and attached it to the end of the countershaft, and gave a few brisk turns. Nothing happened. He gave a few more brisk turns, and then decided that an easier start might be made if the petrol was turned on. I entirely agreed with him, and we were soon rewarded with the hearty roar of an 8 h.p. air-cooled engine.

Not stopping to wipe the perspiration from his brow, my friend climbed into the driving seat, and motioned me to a space in front. I climbed gingerly into the body, and sank as gracefully as circumstances would permit on the bare boards, where cushions should have been. The body was unfinished; there was no upholstery, there were no mudguards, and the seat was designed more to lessen wind resistance than for comfort. I was finally wedged in and we started gently and smoothly, but gathering way all the time.

Where Speech was Unwise.

At last I was actually riding in a cyclecar, and the bare, hard seat was forgotten. The pace quickened, and the wind pressed on my face. We had not gone far when the driver decided it was necessary to turn up a side street without slowing down. The little vehicle went round sharply without a suspicion of a roll. I ventured a remark that the car seemed very steady, but got no response. The oily figure at the wheel had heard, however, for he proceeded to "blind" round every sharp corner which occurred, while I held my breath and decided that I should be safer if I made no more remarks.

We now passed into a wide street entirely occupied by motorbuses, "taxies" and nervous old ladies, or so it appeared to me. We nipped round buses and evaded refuges, our speed varying from 5 m.p.h. to 25 m.p.h., and all on one gear, of 4 to 1 about.

When the traffic thinned and we were rolling smoothly along at about 10 m.p.h., I inquired of my friend how the vehicle accelerated. "With the accelerator pedal," he replied shortly. Deploring the limitations of the English language, I explained that I wanted some idea of the rate at which we could gain speed. He nodded and opened the throttle to its fullest extent. The hard edge of the seat pressed into my back, but I felt forced to lean back against it; my eyes watered and the air screamed in my ears. I waved my hand to signify that it was sufficient. The acceleration was proved. I have experienced nothing like it on a car, the only vehicle which excels it being a high-powered motor-bicycle.



AS OTHERS
SEE US.

The Man at the Wheel: "Just look at the reckless way that car is being driven; I wouldn't care to be his passenger for anything!"

Dizzy Driving.

"Now stop, quickly," I called, and easing up the accelerator pedal, the demon at the wheel applied the foot brake sharply. I rose up and barely saved myself from falling on the scuttle dash. By the time I had arranged myself we were at a standstill.

"Marvellous!" I cried, "but don't do it again. Do something gentle, while I collect myself." He smiled, and considered that "something gentle" consisted of showing me how narrow a circle we could turn in. We did five complete laps in three-quarters the width of the roadway before a small crowd of children, while I attempted dizzily to look dignified. It was a vain attempt, and I was relieved when he desisted and bore me away from this exhibition of circus tricks before disrespectful youngsters.

We finally arrived back at the garage adorned with bits of the street with which the unmudguarded wheels had playfully bespattered us; but I was happy—intoxicated with the joy of the motion. I have never been on such a lively vehicle. There was a feeling of power, much power, but easily controlled. Its handiness makes it an ideal car for traffic, and also makes it possible to maintain a high average on open roads.

Of comfort, I cannot say much, but the absence of mudguards on the front wheels made it easy to observe the front springing. The front axle was never still, but only the bad bumps were felt by the passenger.

What a Cyclecar Cannot Do.

As I thanked my friend, I inquired if there was anything the car could not do. He thought a moment, and then said, "Yes, reverse; but if you have gloves on you can do that for short distances by turning the back wheels round when sitting in the driving seat. There is another way," he added, "and that is when the front of the car is pointing uphill. Release the brakes and she will reverse by gravity."

The sensations of this run were accentuated by the fact that I was sitting in front of the driver, thus I cannot say whether his demon face gloated over my evident discomposure at times, or whether he was oblivious to my existence. I simply held on to the edge of the scuttle dash and waited for the end, but when the run was over I wanted more; such is the inconsistency of human nature. Since this run, I have had several in other vehicles, and the joy still remains, although the terrors have vanished.

Truly a vehicle such as this has a great future. In construction it is simple, in the transmission there is nothing to get out of order, chain from engine to countershaft and belts thence to the back wheels. The light weight and variable gear make it extraordinarily lively, and its hill-climbing is very fast. Constructed on motorcycle lines, it would cost very little more for running, and, in return, you obtain a motorcar for two, with all the good points of a motorcycle and few of its drawbacks. Simple, fast and efficient, the cyclecar has come to stay. G.C.S.

PERSONAL GOSSIP.

Two Early Pioneers tell the
Story of Their Experiences.

Trials and Tribulations of an Originator.

DOWN in the little village of Eynsford in Kent, nestling by the side of the silvery Darent and under the shadow of the chalky embasures of the North Downs, there dwells one of the cleverest of amateur designers. Mr. Harold E. Dew, however, is more than this, for he is undoubtedly the pioneer of the development of a type of cyclecar which many believe will ultimately have a great vogue—the skeleton single-seater.

Recently we asked Mr. Dew how he came to hit out the idea of the motorcycle on four wheels. His reply in effect was that it was the result of the fruit of experience, costly and painful—but let Mr. Dew tell the story in his own words.

“Soon after I left school,” he says, “I bought a forecar attachment, and by fixing two wheels on the after end of it succeeded in making a very light, if not very strong, four-wheeler. The power unit was a 2½ h.p. M.M.C. engine. It had a carburetter nearly as large as the engine itself. Only one rear wheel

The Lamp-post Remained

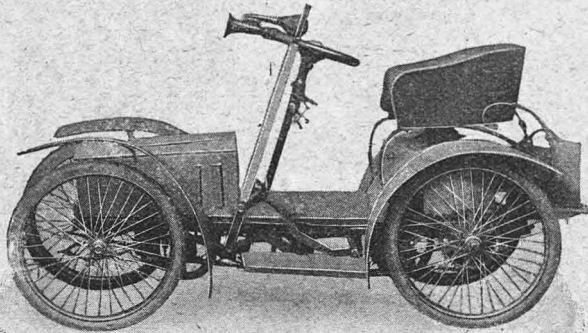
“However, it was not to be. An enemy it was who suggested that the very thing I wanted was a sidecar combination. He painted the joys of sidecar driving in such roseate hues that on August Bank Holiday, 1906, I started out with such a contraption. What with leaning over to the left and being nervous of taking a right-hand turn too fast, that trip was anything but pleasant. Every dog must have its day, it is said. It was somewhere in the neighbourhood of New Cross that my sidecar met its Waterloo. ‘Hugging’ a kerb round a sharp left-hand turn, I clean forgot the sidecar and a lamp-post standing at the corner. Naturally something had to go—the lamp-post still remained.

“Now the four-wheeler of my dreams appealed to me as nothing else. I started to build one on an estimate of £35. There must have been something wrong, however, as its cost was at least £100. The parts that were drawn, patterns made and often scrapped, represent a nice little heap and a hole in my capital. It must be remembered that there was nothing for me from which to obtain help; I had to originate and not imitate from the very first. I might say that I have followed this practice up to the present time, but I am quite open to look at better ideas than my own.

“In ‘Motor Cycling’ of the 6th September, 1910, there was an illustrated description of one of my early spider models. Thinking that there might be



Mr. Fritz Sabel. (See next page.)



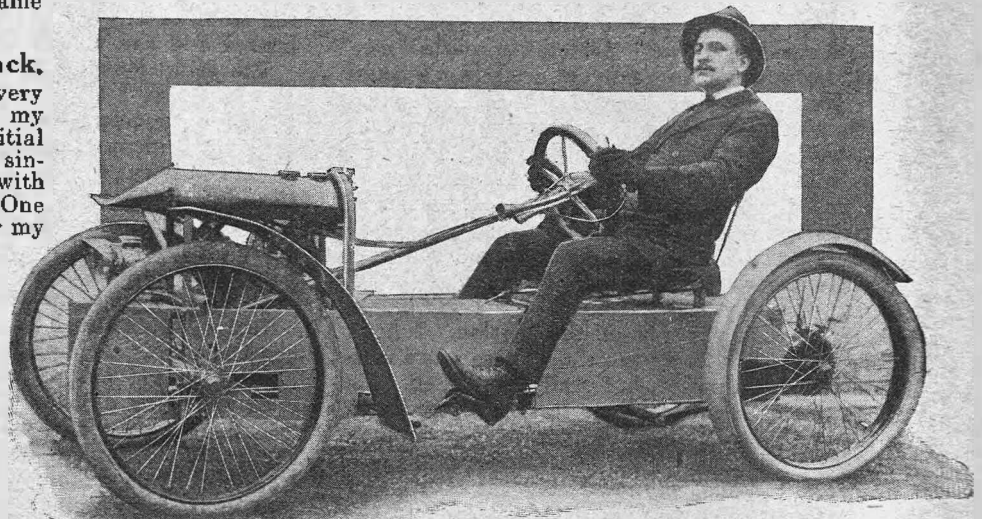
The Sabella car of 1906.

was driven by a very indifferent belt. Of springs there were none, the wheels being rigid with the frame—it was not exactly like a bath-chair for riding. After various short rides it ended its vain and inglorious career by the frame breaking in half.”

Sideslip and Single Track.

“Money not being very plentiful, I had to shelve my desire to improve on the initial attempt to build a simple single-seater and temporize with a two-wheeled machine. One day, about four years after my first four-wheeler departed this life, I discovered what it meant to have a sideslip on a motor-bicycle. I was riding along gaily enough when the back wheel seemed to slip away, and when I picked myself out of the mud and had scraped off a great deal of it from my clothes and face, it started me thinking furiously about my old love, the four-wheeler, the skeleton single-seater.”

B34



A PIONEER
DESIGNER.

Mr. Harold E. Dew, and the
latest monocar that he has built.

PERSONAL GOSSIP (contd.).

a few motorists like myself who wanted a similar machine, I offered to help to design and build one. I did not know what I was asking, for in the course of the next two months I received nearly 300 letters, some asking for the moon, and others my best price for a dozen, etc. These letters and inquiries came from over the five continents, and my collection of foreign stamps has increased enormously. It just shows how the motor Press penetrates.

"In 'Motor Cycling' of 19th September, 1911, a more refined single-seater of mine was illustrated. It was simpler than the one previously described, and from these two I evolved a two-seater with but very indifferent success. I found the weight of the passenger made a big difference.

"I shall continue to make cyclecars with these five points chiefly in view, viz., simplicity, accessibility, comfort, cheapness, reliability. They are absolutely essential in building a successful cyclecar."

ENGINE DESIGN OF THE FUTURE.

By a Well-known Engine Manufacturer.

IT must be obvious that rapid and cheap mechanical transit affords more room for development than almost any other phase of the road transit movement. I can see the roads carrying immense numbers of vehicles ranging in value up to about £130, and that in the very near future.

So far as the immediate development in cyclecars is concerned, I should roughly divide them into two classes:—(1) Machines built on the lines inspired by motorcars, with the familiar specification of live axle, three speeds and reverse, coach-built body, and so on. (2) Machines inspired by cycle practice, light tubular or wooden frames, with belt, chain, or other flexible transmission. It is in the latter class that we may reasonably look for rapid and progressive development. A machine of this type will not involve the same amount of investments in plant, or occupy so much time in organization, and, consequently, progress should be rapid and continuous. I can conceive numbers of satisfactory machines being placed on the markets within the next two years at prices ranging from £50 for monocars up to £85 for simple duocars, and, of course, some expensive machines having more elaborate specifications and refinements.

Now, with regard to engines. At the moment, the designer is confined to the models which have been designed for bicycles, and over a certain period there is little opportunity of obtaining a wider range of choice. This is possibly one of the greatest handicaps the movement labours under at present. The bicycle engine, while eminently suited for its purpose when built into a machine, in which the vehicle performs some of the functions of a flywheel, is not so well adapted for a vehicle in which the load has to be picked up from rest. Crank chambers are not stiff enough in section, bearing areas are restricted, lubrication haphazard, and balance by no means ideal.

I hope to see engines of approximately the following types:—6 h.p. single cylinder, 8 h.p. twin, and 10 h.p. four cylinders. They will, I think, have to be designed for maximum efficiency and flexibility: long-stroke engines to have light moving parts; overhead valves with quiet running mechanism; small crank

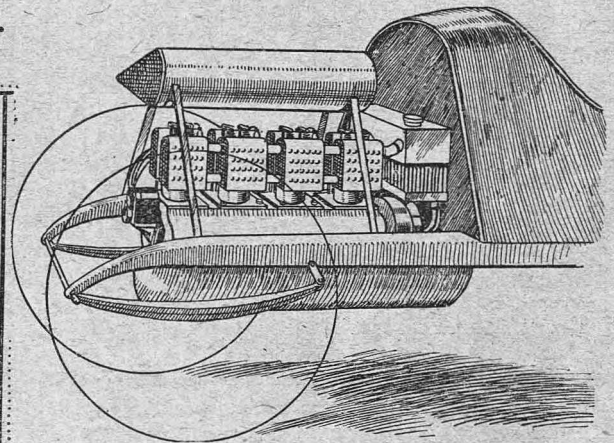
A Pioneer Designer and a Hand-propelled Car.

IT is possible that the name of Fritz Sabel is not well known amongst those who own cyclecars, but mention of the Sabella car supplies the link.

"The first car which I constructed," says Mr. Sabel, "was a hand-car, for which I took out a patent. This hand-car consisted of a lever and chain which went over a free-wheel on the back axle, and over the end of the chain was a spring. On this car I attached, after a while, a 1 h.p. engine, and later on this machine developed into the little car which I exhibited at the Stanley Show in 1906."

Mr. Sabel says that some years ago he had a hand-car built for himself. "I often used to go out on it round the neighbourhood, before breakfast," he added. "These machines can be built for six people, and it will be found an exercise similar to rowing in a boat where no river is available."

Mr. Sabel was the introducer of the Bedelia into this country.



A suggested self-contained water-cooled four-cylinder engine fitted with Green patent water jackets.

chambers, with crankshafts and outside flywheels, automatic and pressure lubrication for the bearings.

I think we shall follow the conventional motorcar type, with the two and four-cylinder engines, and hope to see both air-cooled and water-cooled engines before long. I think the Green type of water-cooled engine to be the best, because of its all-round efficiency and the self-contained and durable type of radiator. Can you imagine a little twin Green water-cooled engine, with cylinders of about 60 mm. or 65 mm. bore, and a stroke of about 115 mm. or 120 mm., and a four-cylinder engine, with a cylinder bore of about 50 mm. and a stroke of 90 mm. to 100 mm.? Either engine can be designed to pull cyclecars of either the motorcar or cycle type.

The same engines, air-cooled, would occupy more space in order to spread the cylinders apart to obtain radiating surface. This objection does not apply to the single-cylinder, and I think we shall see a single-cylinder type of monocar and duocar with an air-cooled engine from 650 c.c. to 750 c.c. capacity, occupying the same firm and favourable position in the estimation of the public that has so long been held by the 500 c.c. bicycle.

"The Cyclecar Manual," incorporating "Cyclecars of 1913," is just the book for the beginner. From any bookshop, 1s.

THOUGHTS & OPINIONS

The Suggestions of To-day may be the Realities of To-morrow

Steam and Carburation: Interesting Method of Increasing Power.

I would, as an old motorcyclist and car driver, congratulate you on the first issue of your journal. It is quite up to the standard of the Temple Press, which says much, and will undoubtedly fill a gap.

May I offer some comments on your note on page 5. You refer to the action of a steam jet on the power evolved in an internal-combustion motor when mingled with the petrol-air supply. My experience has been that this is a most excellent and useful method of increasing power. I have used it on my car and with various types of carburetter. I think, however, that it is advisable to introduce the steam directly into the combustion chamber, or, at least, after the volatilization of the petrol. In this way carburation is not affected. The action is due to the enormous expansion of the small amount of water vapour under the great heat of the explosion. It is necessary, however, to work very cautiously. Any excess of water vapour will seriously interfere with combustion; corroding by-products are also likely to be formed. The proper proportion can really only be found by protracted experiment. It will be greater in the case of a rich mixture. A.T.

London, E.C.

[There is evidently an excellent subject for scientific research in the effect of steam upon carburation.

—ED. "THE CYCLECAR."]



A cyclecar home-constructed by alterations to an old Phoenix quad car.

The Cyclecar of Rheims.

I am sending you a photograph of a cyclecar which I have built, and the following specification may be of interest:—

Frame.—Pressed steel, suspended on straight quarter-elliptic springs.

Steering by means of steel cables.

Engine.—9 h.p. air-cooled Anzani, V twin-cylinder.

Transmission.—By chain to countershaft and by belts to the back wheels, there being no gearbox.

Brakes.—Of the shoe type, acting on the belt rims of the back wheels.

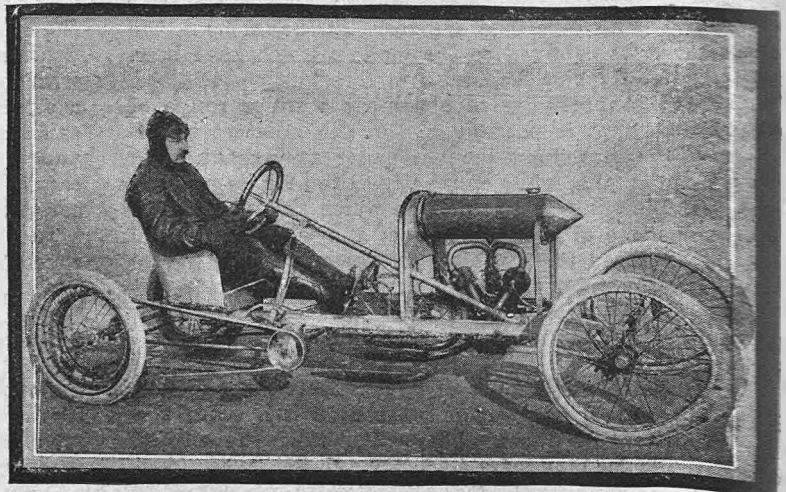
Weight.—440 lb.

Speed.—Fifty miles per hour.

Rheims.

J. A. MEYER.

236



A cyclecar built for his own use by Mr. J. A. Meyer, of Rheims.

The Garaging Problem: A New Use for the Home of the Horse.

The great difficulty which confronts a prospective purchaser of a cyclecar who resides in central London—say in South Kensington—is that of finding house room (so to speak) for his car at a reasonable charge, say 5s. or 7s. a week. Garages are out of the question: they want 20s. or 15s., which in one year amounts to pretty well half the price of the car. I should think if this point were ventilated in your columns some owners of stables which are half empty, owing to the scanty use made of horse traction, would be glad of the opportunity of housing cyclecars at the price I have suggested, with an appropriate fee for cleaning. Without such proportionate expense in garaging a cyclecar one might just as well purchase a full-sized car, and, consequently, the advantages of the "new motoring" would be confined to those who have sheds in the country. R.M.

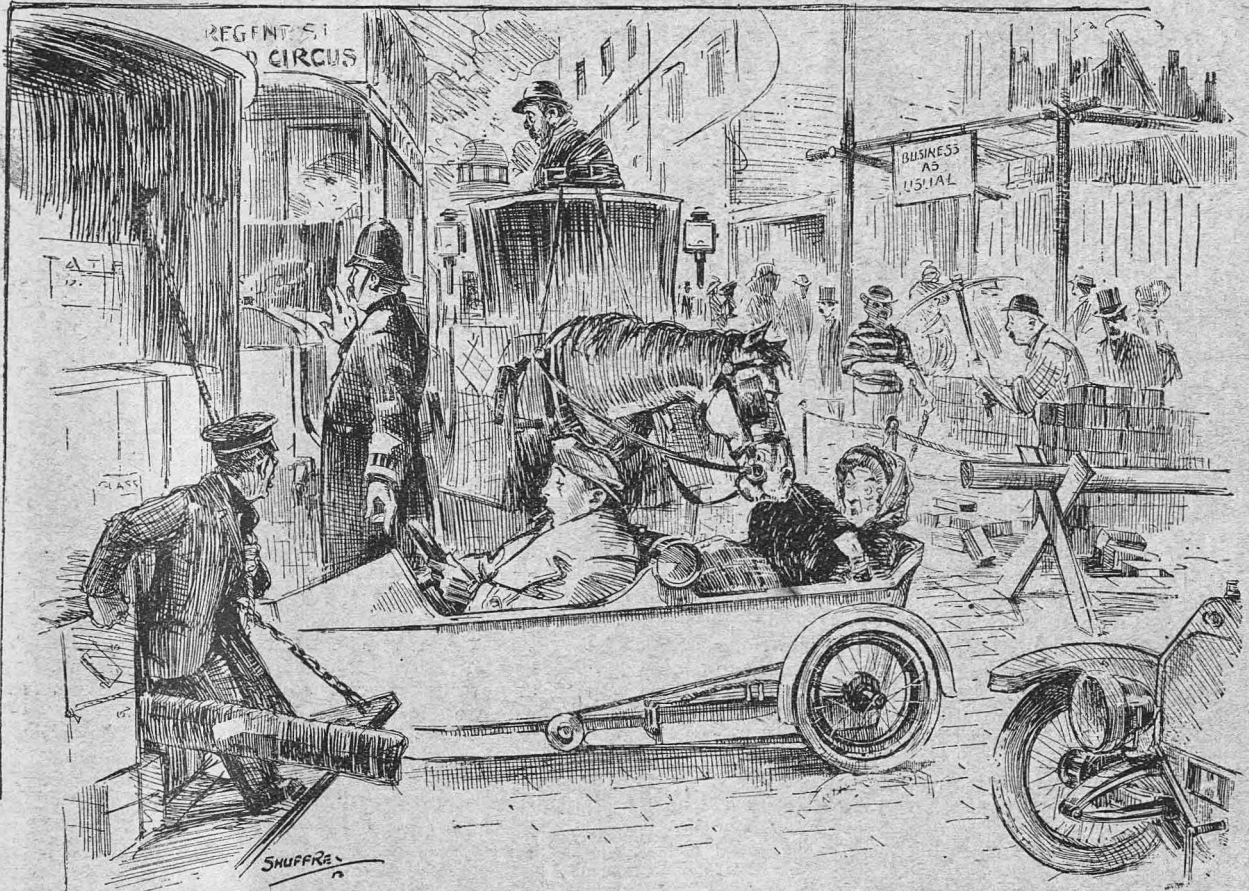
The Royal Automobile Club.

[In our previous issue we suggested a co-operative scheme of garaging to meet the requirements of people in the same difficulty as our correspondent.—ED. "THE CYCLECAR."]

Converted into a Cyclecar.

In the first issue of THE CYCLECAR I notice a letter from Mr. G. Wooler, asking for details of home-made cyclecars. Here is one for him. An old Phoenix quad-car was bought for a mere song. The body was removed entirely, and the chassis examined and overhauled. The steering was altered from the centre to the side, one radiator being set at the extreme front and acting as a substitute for the two, as in the old Phoenix. A new petrol tank was fitted above the engine, and the two seats of the old machine grafted into a single side-by-side body. I can average 20 m.p.h., and the little vehicle, if somewhat quaint, is extremely comfortable, and attracts an immense amount of attention in my district. I enclose a photograph of the cyclecar, which may prove of interest to those of your readers who, like myself, hanker for a little four-wheeler, but have not £100 to buy one.

W. WELFORD.



HORS DE COMBAT!

Passenger (excitedly): "Charlie, Charlie, let me out this instant!"

Oblivious Driver: "Don't worry, Auntie. He's just giving us the signal to move on!"

The "New Class of Motorists."

The cyclecar is appealing to everyone, and I was interested to note in a recent issue of an important daily paper a paragraph which expressed the view that cyclecars will appeal to an entirely new class. To my mind, it helps to bear out what you are now advocating, that is, that the advent of the cyclecar will produce—nay, is producing—a new class of motorists, namely, those who will not ride motorcycles and cannot afford cars. I noticed in a contemporary of yours that this idea was flouted, and was very pleased to see you pointed out the mistake.

I am watching the progress of the new movement with the greatest interest, and taking in THE CYCLECAR.

W. H. LINDLEY.

Hendon.

Names of Cyclecars.

I attended the two Shows at Olympia, and was struck by the numerous cars bearing such appellations as X.Z., Q.P., or D.U.C.K., generally the initials of the makers, which one cannot remember, and, therefore, Q.P., etc., soon becomes meaningless. Where the initials of a company are so given, as F.I.A.T., or N.A.G., which also spells a name, there may be something in it, but even then the advertisements might give the full title. It was years before I learned the meaning of F.I.A.T. and N.A.G. Even now I have no idea whether S.C.A.T. and K.R.I.T. and such like are English, French, German or Italian. If one reads of Daimler, Renault or Metallurgique, to mention a few, one at once recognizes the maker and country of origin.

GERALD HARLEY.

Richmond.

Chain Drive.

The very interesting article upon belt drive by "A.H.T." compels some comments upon chain drive. So far as my observations and experiments go, I unhesitatingly state that no system of transmission gives higher efficiency, a fact fully confirmed by engineers who have professionally tested chain gearing and transmission for our best makers, the results being so remarkable that the average man would discredit them. The average man might not get the best out of chains, because he is likely to miss the necessary accuracy in fitting, a point not so evident in belt drive, and, again, he has the difficulty of inelasticity, some sort of shock-absorber being required. As a shock absorber, I am experimenting with a large pulley, short belt drive, leading up to chain gearing in a two-speed gear of my own design, in which the gearing itself is worked by an internal chain and afterwards to a balanced friction drive. This has been tried successfully on a motorcycle, and I am now fitting it to a light cyclecar. The model abundantly demonstrates my contention about the efficiency of chain transmission, as the whole gear runs lightly by hand movement, in high, low, and neutral. Two pairs of friction rollers work in the drum, one pair to each gear, in perfect equilibrium. No one has given a heartier welcome to THE CYCLECAR than myself, and I shall be glad if it advocates the cyclecar in close relationship to the motorcycle, light but efficient, comfortable and inexpensive, closely approximating in cost a motorcycle with a sidecar, and not a miniature copy of a big car.

W. TURNER LORD.

Kensington.

SPEED AND THE CYCLECAR.

Two Opposite Views Expressed in Comment Upon
the Article by Mr. Sturmev in Our Last Issue.

Type of Car Required.

As one who hopes at some future time to become the possessor of a cyclecar, I have followed the movement with great interest, and I cannot help thinking with Mr. Sturmev that the tendency in the majority of cases is to develop on wrong lines.

It seems to me that the possible users of cyclecars may be divided into two broad classes:—Firstly, the speedman, to whom, no doubt, such performances as Mr. Morgan's, referred to in your last issue, will be of intense interest. Secondly, men of limited means who are not attracted by a motorcycle and sidecar on account of the discomfort, and who, if they were able, would possess a motorcar proper. This is a class which is largely composed of older men, many of them (like myself) old pedal-cyclists, who are either tired of pushing a bicycle on account of decreasing muscular power, or find that, owing to the increasing fast traffic on the roads, there is not the same pleasure in cycle riding as formerly.

To the latter class speed is altogether a secondary consideration. Probably the larger percentage will never, under any circumstances, average more than the present legal limit, no matter of what their particular machine may be capable; even with the desire to drive fast, they will be deterred by the knowledge that it means extra expense, which they cannot afford. What this class of users does want is to be able to drive out with their wives in a comfortable conveyance, which is at all times ready for the road, and which will take them out and home without breaking down. The machine must be as simple as possible in construction, so that it requires a mini-

mum of attention. Further, the cost must be low, or thousands will be debarred; both the first cost and the running cost, are important, but especially the latter.

Multiple gears of some sort seem advisable, so that one can be certain of taking any ordinary hill without shedding the passenger. I am convinced that two tracks are infinitely superior to three.

Liverpool.

F.A.S.

Development on the Track.

Mr. Sturmev deserves thanks for the clear and authoritative way in which he points out how many designers are going wrong. I cannot think, however, that he cannot be so blind to the advantages of racing as the latter part of his article would seem to imply. In this matter it is well sometimes to distinguish between what we want and how we get it. To say that we do not want 50 m.p.h. cyclecars but only 25 m.p.h. by no means rules out the building of 50 m.p.h. cars as the most trustworthy method of original investigation leading up to the correct 25 m.p.h. machine. Two fundamental features are simply crying out for investigation—frame design (including such principles as three or four wheels, wheelbase, track, position of passengers, etc.) and transmission. On none of these are there two alike at present.

If Brooklands had been in existence and popular a few years sooner, the old tricar would not have died. Considering what it has done for the hopelessly unmechanical sidecar, there can be little doubt that the stable and light three-wheeler would have been evolved years ago.

H. M. MANN.

A FEW FURTHER FRIENDLY CONGRATULATIONS.

Will Kill the American Car.

Allow me to congratulate you on your new venture THE CYCLECAR. I am sure your paper is going to be of tremendous benefit in popularizing this type. I feel certain that this type of car will, in course of time, absolutely kill the cheap American car as regards this country.

J. S. CRITCHLEY.

From the Rt. Hon. Lord Montagu of Beaulieu.

I must congratulate Temple Press on its new production. I feel that this venture will be the means of bringing many fresh converts to our ranks—converts who are unable to buy expensive motor vehicles—and thus it will tend to further general growth of automobilism.

MONTAGU.

An Unexplored Field.

I have been exceptionally interested to read a copy of your first number of THE CYCLECAR, indicating, as it does, the extraordinary possibilities of a new and hitherto practically unexplored field for one more of the many benefits and conveniences made possible by the petrol motor. No one, probably, has more intelligently anticipated the needs of the motor public amongst all classes from a press standpoint than has Mr. Dangerfield, and, personally, I have no doubt that THE CYCLECAR will be as successful, and will appeal to as large a body of readers, as has practically every other publication for which the Temple Press has been responsible. It certainly has my best wishes for a success proportionate to the exceptional enterprise which has given it birth.

FRED. THORNSBY,

Managing Director, Car and General Insurance Corporation, Ltd.

From a Pioneer Motorist.

Please allow me to congratulate you on the first issue of THE CYCLECAR. I think it is a wonderful production, and it certainly deals very usefully and thoroughly with the new progress of the movement.

S. F. EDGE.

From the Chairman of the R.A.C.

I congratulate you very sincerely on the first number of THE CYCLECAR. I am very much interested in the very rapid progress of cyclecars, and I am glad to see that Temple Press has taken the matter up with its usual energy and thoroughness.

ARTHUR STANLEY.

From Sir J. H. A. Macdonald, K.C.B.

I think the first number of THE CYCLECAR does great credit to the Temple Press. Its issue puts into concrete form the testimony of those who know of the coming advance in the use of the power vehicle for a vast class who have hitherto been held back by the expensive character of the motorcars of the first decade of the century. That advance will be, I feel sure, as phenomenal as has been the advance of the high-priced vehicle since the Act of 1903, when, for the first time, a reasonable speed was sanctioned. I do not doubt that the new publication will have its share of the prosperity that is opening to the cyclecar.

J. H. A. MACDONALD.

Many letters are unavoidably crowded out. Readers are asked to make letters intended for publication as brief as possible.