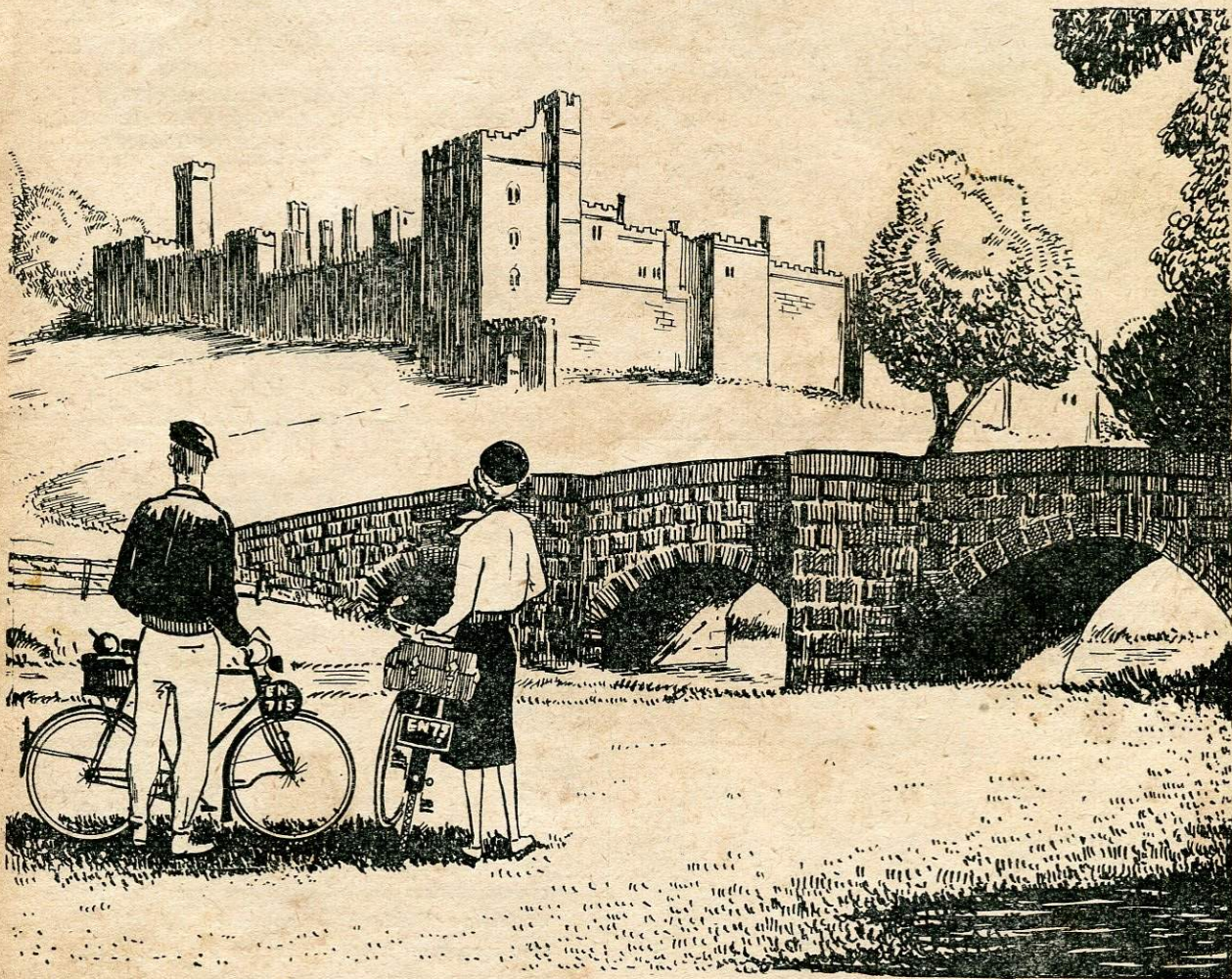


AUGUST, 1953

MONTHLY 4<sup>D</sup>

# POWER & PEDAL

The Journal of the Cyclemotor

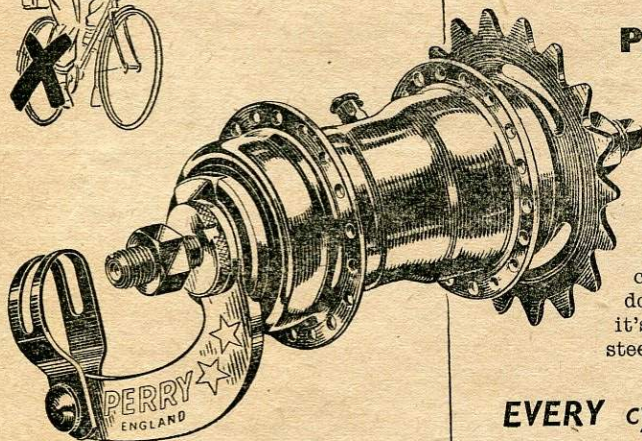


*Haddon Hall, Derbyshire, and its packhorse bridge over the Wye—M. PEYTON*

**Touring in France—page 12**



ALWAYS CYCLE IN SAFETY—FIT A



## PERRY Back-peddalling Brake

**X** marks the spot where the PERRY coaster hub brake fits on your bicycle, to give you that extra stopping power which makes all the difference. Operated by backward pressure on the pedals, the PERRY safety brake gives you absolutely controlled braking, whether for coasting slowly down hills or sudden emergency stops. And, because it's a foot-brake, your hands are always free for steering, signalling and handling controls.

EVERY cycle is better for a

## PERRY COASTER HUB BRAKE

—all the safer to cycle with!

Ask your dealer for a demonstration, or write for free descriptive literature to Perry Chain Co. Ltd., Tyseley, Birmingham, 11.

## Insist on "CLIP-ON" FILTRATE

says Fluid Phil

This is a very high quality Lubricating Oil, specially developed and tested for the lubrication of assisted cycles. Handily packed in quart and pint tins. It is exactly what riders of Clip-ons have been waiting for, for so long. The right oil for the job.

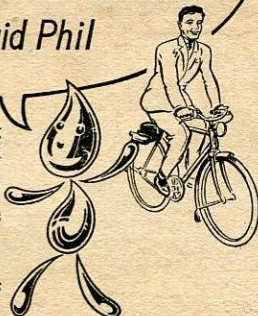
Available from Halfords, or write to us if any difficulty.

'Phil' up with CLIP-ON

## FILTRATE

REGD

EDWARD JOY & SONS LTD LEEDS EST. 1807 "Between Trafalgar and Waterloo"  
Associate Company. FILTRATE (regd.) OILS (Ireland) LTD., GOLDEN LANE, DUBLIN



## MOTORING FOR THE PEOPLE



Over 100,000 Cyclists in this country have become cycle-motorists by fitting Cyclmaster, the original engine-in-a-wheel. They go where they like, and save money on fares. Latest models have a bigger and better engine, lighting dynamo, back-peddalling brake.—all for the low price of £27. 10. Easy Terms.

## Cyclmaster

Write to-day for special free leaflet to (Dept. T.7.)  
Cyclmaster Ltd. 38a St. George's Drive, London. S.W.1.

Editor: FRANK L. FARR

*Editorial and Advertising Offices:*

197 Temple Chambers, London, E.C.4 Telephone: Central 5424

## SERVICE SELLS CYCLEMOTORS

THE news that the oldest established attachment cyclemotor manufacturers in Britain were drastically reducing their prices was coupled with the announcement that they were simultaneously extending their period of guarantee to twelve months. Shortly after came the information given in this issue that the latest firm to come into the market plans a low-priced exchange engine service through agents, plus a return-of-post overhaul service from their works.

This is the best of good news to cyclemotorists and no doubt will be reflected in the sales of the motors concerned, but it is something that should not really be an issue of discussion at this comparatively late stage in the introduction of the cyclemotor into Britain.

To do its job properly the motor assisted cycle must be usable by the completely non-mechanical rider. Even the ordinary standards of the man handy about the house will not apply to many of the riders of present and future machines on our roads. In the first place, of course, this is a matter of reliability, demanding designs that will guarantee that the engine will always start and run when required so long as there is fuel in the tank, and that when it feels the need for attention eventually it protests gently and gradually, not by a sudden stoppage.

Nor is it only the inside of the engine that calls for this freedom

from trouble, indeed the modern two-stroke is almost perfect in this respect. The controls of many machines are far too fussy of maintenance, cables stick and even break, feed pipes and jets clog, plugs soot and oil up, roller settings need adjustment and the outsides of many carburettors get filthy with petrol and road dust.

It is no use saying that these things are easily remedied or even avoided by any person of normal common sense and aptitude although it is probably true that any man or woman who can ride a cyclemotor could easily learn to look after it. The fact must be faced that many quite intelligent people who could find good use for cyclemotors do not *want* to spend time on maintenance. They would sooner pay, provided the amount is modest, to have even the simplest of routine jobs done for them.

This kind of service does mean that every manufacturer must have a chain of efficient agents throughout the area of his sales, men really interested in the motors and the folks who ride them; able to do most of the jobs on the spot, "Ready next week" is not enough; and willing to do the smallest of adjustments worth only a few coppers as part of the wider business of selling and servicing cyclemotors. Such agents are not easy to find but we really believe that they can be found and more created *provided the cyclemotor trade is given a status and position of its own.*

Too many agents still regard our engines as poor relations of the motorcycle industry or as a sideline to cycles, toys and radio, but those who are keen are finding that service breeds sales, not only repeat sales from one customer but introductions to many more. Within a few years from now there will be a million cyclemotors in Britain, enough to keep many hundreds of agents busy in a profitable way, but we believe that it rests with the manufacturers at present to encourage their retailers to provide the service *now* that will create the demand of the coming cyclemotor age.

Some simplification of design is desirable to reduce both the frequency with which adjustments are called for and the time taken to carry them out. Cables could well be reduced in number and increased in strength in some designs; fuel filters that really work and only need cleaning once a year are practical necessities. Cleaner exteriors are required and petrol taps (Are they really necessary?) could operate from the top of the tank to avoid messy leakage.

These are problems for designers and engineers but, when they have done their best, the need for service will still remain. To the rider it is the man in the shop who counts and it is on the work and willingness of the men in the shops that the rate of expansion of the cyclemotor business largely depends.

# COMMENT

by

## CLIP-ON

### Infinite Variety

ONE of the most interesting things about the new motors recently reported is the fact that they are still all over the machines, the *B.S.A.* in the rear wheel, the *Firefly* under the bracket and the *Teagle* over the tail.

This to my mind is a very good sign as it means that the development field is still wide open and that the introduction into the market of bigger manufacturing names is not leading to standardisation. Even better is the less obvious variety in the transmissions, the hub unit using gear drive, the Vincent job a geared roller with a flexible, shock-absorbing core and the rear-ender a direct roller drive with alternative roller sizes offered for flat or hilly territory. As a pointer to the immediate future of the Trade this variety and originality in design is good for all of us.

Regrettably, I find that most dealers and almost all riders I have talked to have their minds made up on what is the best or even the "only" type that will stand the test of time, but I remain convinced that these folk are wrong and that we shall see and like many new ideas in cyclemotor design before, if ever, stagnation sets in.

### Freewheel Life

Something like a storm arose in the Clip-On "local" the other evening over a casual remark that the amount of freewheeling done when using motors on standard cycles gave the freewheels a bit of a bashing. A couple of other cyclemotorists present agreed and were

prepared to stand witness in support of the statement, but an old cyclist determinedly asserted that this was sheer boloney, an excuse for poor material and design in modern cycles.

He invited us to look at his own cycle then standing outside, a light roadster of a very well known make, which he told us was eighteen years old, had been in regular use and still had its original freewheel. Others of the old brigade joined in the argument and several said they had similar experiences. I had to admit after some reflection that even in my club riding days when I covered huge mileages in all weathers I had never replaced a freewheel for ratchet wear although some had worn out their driving teeth. Then I had a fresh thought—the complaining riders were both using rear-roller-drive machines and one at least had the usual too much cut out of the mudguard.

The answer seems to be that the freewheel will last the lifetime of the cycle if it can be kept free from mud and grit.

### Measuring the Hills

A reader asked our Queries department a few weeks ago if they could tell him where to get a gradient meter for his machine as he found it of great interest, especially when touring, to know just what the hills were that he toiled over. It appears that we were unable to find the answer but I am fairly sure that I remember an instrument of this sort being on the market just before the war. Can any other reader help?

Personally I have never been keen on adding gadgets of any

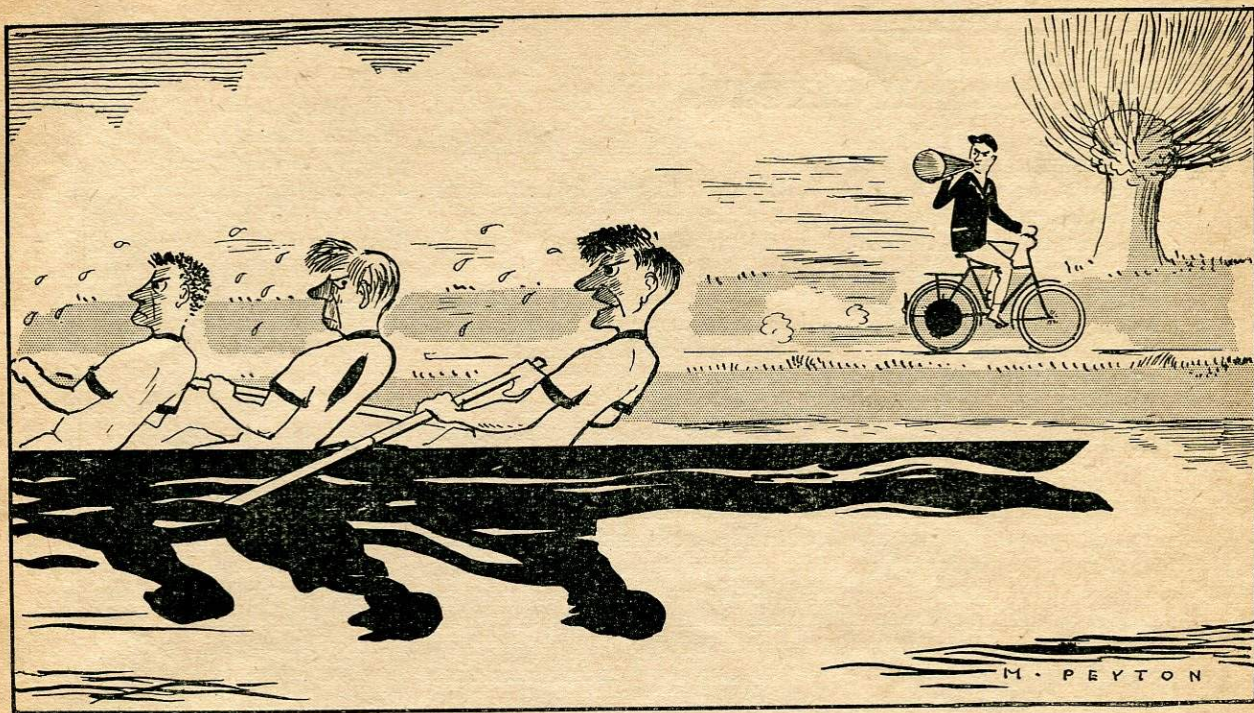
sort to my own machines and find them of use rather than absorbing interest when I have to use them on the test jobs. However, many people like speedometers just to add to the interest of the ride and there is probably a market for a miniature Tapley meter if one is available.

### Blaming the Saddle

The man who habitually rides four or five miles at a time perhaps twice a day and then suddenly takes it into his head to do a fifty mile trip straight off usually gets a painful surprise in the matter of saddle-soreness. He has always thought of himself as a regular and conditioned rider and is inclined to take the line that, as he is obviously alright, the saddle is at fault.

There is more in a saddle than meets the eye, however, and it is not always the one that feels most comfortable when just sat on at the kerbside that is best for real work. Over longer mileages the rider tends to relax more, to take a real rest with his weight well back in the saddle, a position that he might never adopt in his short local rides. He may also pedal more or less, it doesn't matter which, in the course of the longer ride. Then there is the possible factor of different clothing being worn. All these things go to make real differences in the relation of the rider's weight to the parts of him that have to carry it and mean that he is demanding something *different* of his saddle, not just more of the same thing.

Ultimately the test is one of personal experience and we are fortunate in that saddles suitable



*"He's become a regular slave-driver since he had that engine fitted"*

for our machines are comparatively cheap. I can, however, offer one general tip from many years of riding on all kinds of two wheeler transport. On most machines the saddle is better a bit larger, a bit higher, and a bit softer for the long journeys than for the short utility runs—Try it and see.

### Traffic Safety

Since reading the Ministry of Transport summary of traffic accidents recently, in which it is stated that the majority of fore-and-aft collisions were caused by the overtaken vehicle being wrongly positioned for a turn, I have watched carefully to see how this affected our own fraternity.

It is often difficult for a driver of long and varied road experience to say just what he does in any given set of circumstances and why, but looking at other people one begins to notice the things that

they do differently. I have found it a fact that far too many cycle-motor riders do hang on to the left side of the road when approaching a right turn and then either shoot across the traffic line at short notice or get stuck in the gutter waiting for the traffic stream to stop.

This seemed to apply to riders of all ages and there was no difference between the "L" platers and the rest in proportion. It did strike me though, that the slower riders tended to be the worst offenders—I mean slower riders not engines—and this can only mean that the hugging of the kerb is a matter of nervousness.

I would seriously suggest that all readers examine themselves conscientiously on this question and try to obey the rules of the Highway Code in this matter of positioning in traffic streams in advance of an intended change of direction. Actually you will be in no danger by

getting across the stream in good time and staying there, and the car behind will not run you down provided your intention is clear.

### Still a Hass

The latest piece of idiocy in the law as it affects cyclemotors that has been brought to my attention is that regarding child passengers on tandems. In law the tandem with an engine is a solo motorcycle and must not carry more than one passenger. The kiddie in the seat on the back is, therefore, illegal.

On a tandem without motor the child passenger is legal, also on a solo cycle with or without motor, but if the young married couples, who presumably form the bulk of our tandemists, want to carry the baby they must buy a sidecar!

Won't some public spirited manufacturer of cyclemotor engines please give one to the Minister of Transport, just to help him to understand.

## HOW IT WORKS III

# The Carburettor

by  
Brook Lister

**A**N explosion is an extremely rapid burning, the resultant expansion being almost instantaneous. All burning has to be supported by oxygen—limit the oxygen supply and the burning is slowed down.

In our cyclemotors we burn a combination of air (oxygen and nitrogen) with petrol vapour. The process of combustion uses the oxygen content of the air. The nitrogen passes out of the exhaust pipe heated, but otherwise unchanged, acting as a useful engine cooler.

There is a critical ratio (approx. 15 parts of air to 1 part of petrol by weight) which gives the maximum explosive force consistent with economy.

The function of the Carburettor is to supply, as near as possible, to the engine under all conditions of speed, load, and climate a mixture of petrol and air whose proportions are the best for proper combustion.

A well designed Carburettor will also have its parts accessible for easy servicing and be capable of being stripped and cleaned without special tools. The general construction of the carburettor and its feed pipe should be such that it will stand vibration without affecting its mixture performance or making it develop leaks.

The simplest application of the principle of raising a liquid in a tube and atomising it by arranging a stream of air to pass over the top of the tube, is shown in sketch (1) which is, of course, a picture of a scent spray.

Such an arrangement, enclosed in a passage through which air is drawn by engine "suction" would form a very simple carburettor capable of feeding an engine at ONE set of speed and

load conditions only, for only at one rate of air flow through the passage would our proportions of petrol to air be correct.

There are many ways of ensuring that the mixture remains consistent over the speed-load range, and for aircraft and important motor-car engines there are some truly clever carburettors produced which even compensate for high altitudes (where the oxygen content of the air is low) and for engine and climatic temperature. One like this for your cyclemotor engine would be as big as and cost almost as much, if not more, than your complete outfit!

We must be thankful, then, that within the price limitations we (the engine using public) lay upon them the makers have done well to evolve a workable miniature carburettor.

Please look at sketch (2), which is a sectional drawing of a very popular Amal Carburettor fitted to many small engines. This is called the single jet needle type.

Petrol flows by gravity from your tank through the pipe (7) into the float chamber (23). As the chamber fills, the float (2) rises, presses the tapered top end of the float needle (1) into the conical seating (A); so cutting off the supply.

If any petrol is used out of the float chamber, the float will lower, letting in more petrol. In short, the arrangement maintains a constant petrol level just below the threaded top of the needle jet (18). Should any fuel spill over that edge due to flooding, it runs out of drain-hole (G).

The passage (C) is an air vent preventing air-locks.

No. (22) is a detachable plug enabling one to get at the main jet (21) for cleaning. The function of the main jet is to permit the right amount of petrol to flow at

large throttle openings. It therefore determines your full power.

The petrol, after filling the well (22) passes up through this main jet and through the long needle jet (18) in which there is a tapered needle (19) which does not fully fit the top hole. The petrol can therefore flow up past the sides of the needle, be drawn into the mixing chamber, atomised, and mixed with incoming air to pass into the engine.

The tapered needle (19) is secured at its upper end into the throttle slide valve (15) which is lifted up or allowed to descend by the throttle cable K.

The jet needle, therefore, moves up or down with the air-controlling throttle slide and due to its taper allows more or less petrol to emerge from the top of the needle jet (18).

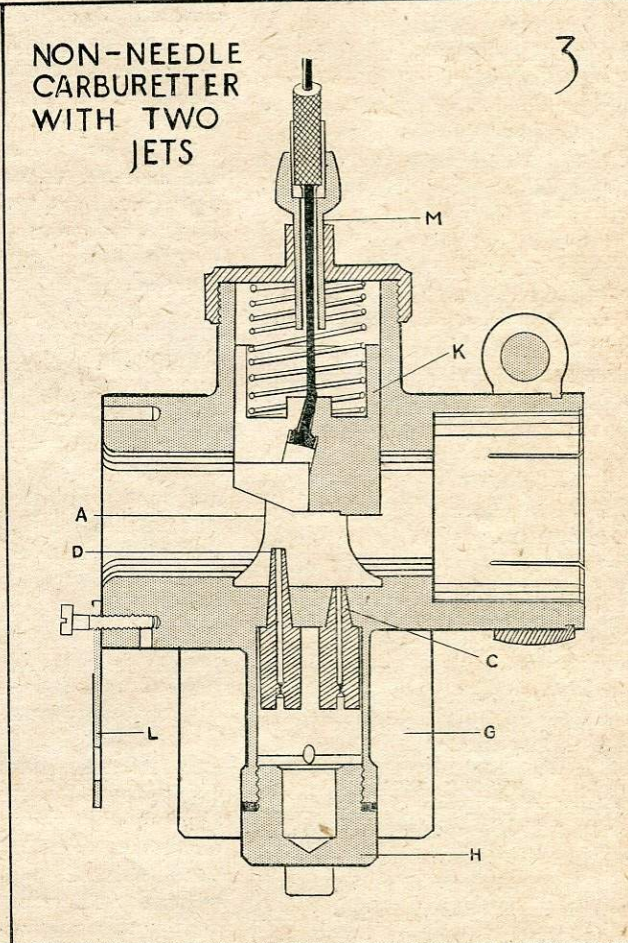
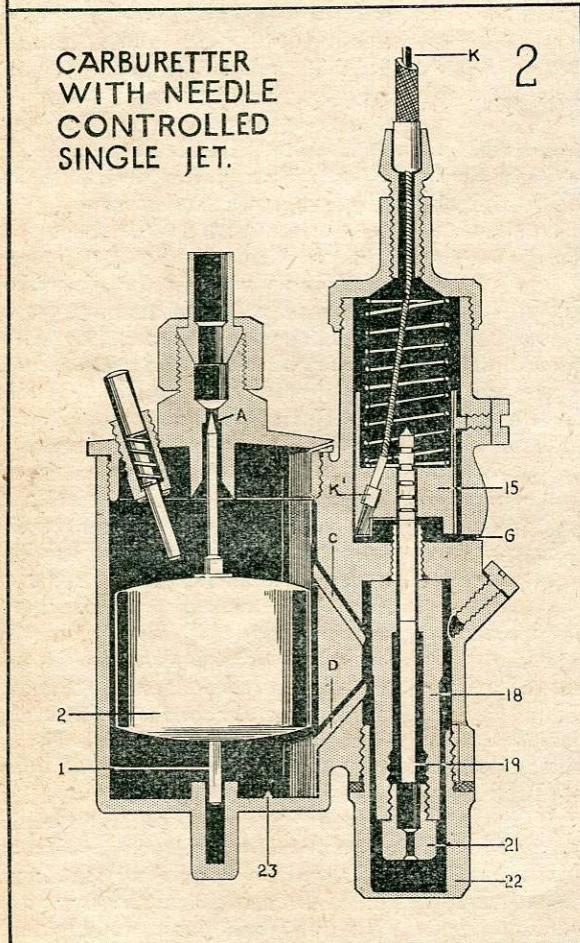
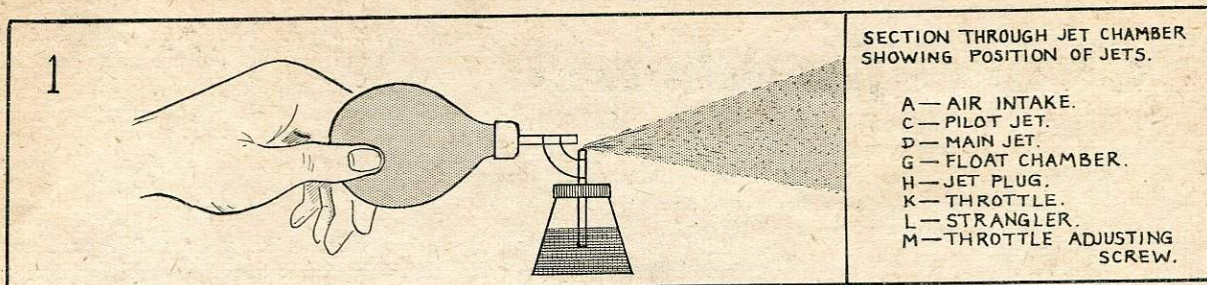
Above a certain point of lift, however, the difference between the needle and needle jet diameter is such that the flow becomes (as indicated before) limited by the size of the main jet orifice. Were it not for this design feature, the mixture would tend to be over rich (too much petrol) at wide throttle openings.

That 15 to 1 ratio we started off talking about must be maintained. It is no use letting in another unit of petrol unless the design is such as to provide another 14 or 15 units of air, otherwise the mixture goes "haywire"; and power, instead of rising, will fall off.

In the short space left at our disposal we will also consider a non-needle carburettor (sketch (3)).

This has a pilot jet (C) and a main jet (D), and for its operation over the throttle range depends upon the "overlapping" of the effective ranges of the two jets, assisted by variations in angle and velocity of the air stream over the jets produced by shaped "cutaways" in the base of the throttle slide valve.

When the throttle is almost closed the main jet is masked from the air stream but the pilot jet lays



within a small passage cut in the base of the slide and is subject to a strong air flow causing petrol to emerge from it and feed the engine.

As the throttle is raised, the main jet is unmasked, and petrol begins to flow from this as well. The amount issuing from this main jet at this stage is influenced by the angle and velocity of the air stream as it is "steered" over the jet by

cutaway portions in the throttle base.

The amount of petrol issuing from the pilot jet begins to fall off because the localised suction on that jet is now diminished, so that dependent upon the actual throttle position near this  $\frac{1}{2}$  throttle stage; a compensation occurs between the two jets—a feature also much used in motor car carburetors.

At full throttle opening, in

common with the needle-jet type previously considered, the real control is by the main jet which is in a prime position to receive the action of the full-bore airflow.

To sum up, your carburettor is a vital part of your engine, made to accurate limits. If it is kept clean, and not "fiddled" with, it will be a matter of *years* before it needs any replacement parts. There is a moral in that remark.

# Correspondence

*The Editor is not responsible for the views expressed by his correspondents. Letters should be typed or written on one side of the paper only and may be signed under a nom de plume for publication, but must be accompanied by the sender's name and address*

## Safety Facts

I was very interested to read Safety Facts in the July issue of *Power and Pedal*. The remarks concerning the increased safety of the motorized cycle over the common bicycle prompts me to write to tell you of a fact that has struck me rather forcibly.

I live in the centre of Reading, and have an excellent view of heavy traffic including all kinds of vehicles. A most outstanding thing concerning cycles and cyclemotors seems to me to be that whereas a bicycle usually wobbles a great deal even when quite well ridden, the motorized cycle travels in a practically straight path and uses much less roadwidth in a given distance.

This may well be a big factor contributing to the greater safety of the motorized cycle.

I congratulate you on a delightful little magazine. I have been a regular reader since I first saw it on a bookstand. I have been a motorcyclist, and an autocyclist, and it was while riding an autocycle that I became enamoured of small engines and a leisurely pace. At present I am without mechanical locomotion, but my next machine will be a cyclemotor! The only trouble is which kind! There seems to be such a variety available and all so attractive, that it will require a lot of investigation to sort out this problem!

KEITH BLAIR

Reading

## Knows What He Wants

First I must add my thanks to you for producing *Power and Pedal*, I have read two issues from cover to

cover with great interest and it answered many problems for me.

I have joined the ranks of the "clip-ons" yet (although, I have ridden a cycle for 25 years) for the following reasons.

(1) I have a *Sunbeam* with oil bath and a special fitting brake at top of rear stays which will not allow some makes to be fitted and I am rather attached to this machine.

(2) I have not seen a model with all or most of the following points simplicity in design, one that is REALLY SILENT, has pull and power from standstill, and has an all out speed of 20 m.p.h. or under, one that is easy to get at and maintain, Backed by a good "Service after Sales", also to include a brake or allow a good reliable one to be fitted to the same wheel.

Lastly of course to be of moderate price.

Am I asking too much! or have you any suggestions?

Good luck to your *Power and Pedal* but do not spoil it (in its infancy and feeling its feet!) to please those who cry for bigger and more often plus more adverts, I would like to see a few more ads. but only selected and guaranteed ones. In this respect you would help your readers when they buy. Roll on next issue!

One who wants to join the ranks!

JACK F. JOY

S.E.15.

## Rear Wheel Stand Wanted

I have recently fitted a *Cycle master* to my tandem. So far I have been unable to get a stand to lift the back wheel; (a solo cycle one is no good) when I have to

remove the back wheel I shall be in difficulties. Can any reader please help me?

W. H. RATCLIFFE.

E. 17.

## Benzole

Further to your test report on high grade petrol in the May issue, when it was stated that "all available petrols were tested except benzole mixture which is not favoured for petrol lubricated two-strokes by some tradition now lost in the past," I took the trouble to write to two firms to test their reaction on this statement.

I wrote first to the National Benzole Company Ltd., who replied as follows:—"We are aware that in a certain quarter many years ago there were some reports of the unsuitability of a benzolised fuel for two-stroke engines, but there was no direct evidence that a benzole fuel was the cause of some of the piston trouble which was experienced, and in fact it is quite possible that similar failure would have happened had the engine been run on other fuels. At that time deflector type pistons were standard and their uneven masses of metal caused thermal distortion, sometimes followed by seizure. In any case the cure was simply to increase the piston clearance slightly. With present day flat top distortion free pistons there is certainly no ground for any possible trouble. We have no hesitancy whatever in suggesting that you should use our spirit, and we are sure you will have nothing but absolute satisfaction."

I wrote next to the manufacturers of FILTRATE OILS, as they supply a special oil for Clip-on engines, called CLIP-ON FILTRATE. Their reply was:—"It is a fallacy that a Benzole mixture is unsuitable in any way in a petrol system."

My own experience, using Benzole Mixture on my *Power Pak* engine, is that starting from cold

is excellent, slow running is very good, but real power at high revs seems to be lacking, whilst staying power on hills is also lacking. I also found that the centre electrode of the sparking plug was burning away rapidly, suggesting that the Benzole was igniting very hot, to the detriment of the plug.

I am now running the *Power Pak* on BP Super, and I find this suits the engine very well indeed. Running is most satisfactory at all speeds, and the maintenance of pulling power on hills is one of the very evident features.

My *Power Pak* is attached to a Tandem. I put it on the road on 1st of April of this year and found it needed de-carbonising after 800 miles when pre-ignition on hills had developed; the bulk of this running was made on Benzole mixture with Castrol XL at 1 in 16.

Having now been de-carbonised the engine is pulling like two horses on the straight premium grade petrol mixed with Clip-on Filtrate oil at 1 in 16.

It is interesting to note that the *Power Pak* is driving on to a Dunlop Tandem tyre (War Grade) which I bought in Scotland in 1943. It ran about 1,000 miles on straight cycling, and now after a further 1,200 miles of roller drive from the *Power Pak*, it is hardly marked. This, I think, is remarkable considering that the tyre is 10 years old and its tread is made of the War-Time composition rubber.

In conclusion, I would be particularly interested to hear from other readers how often they find it really necessary to de-carbonise their engines.

E. C. W. BEALE

Preston

**Old Timer**

Re cyclemotor of French origin. About 30 years ago I had a French attachment called a *Cyclotraceur* which drove off the front wheel.

It was a four-stroke with automatic inlet valve and a small

magneto for ignition. The whole issue rose off and on the front tyre by the winding of a handle. Perhaps some of your older readers will remember this machine.

Wishing your paper every success.

G. GERWAT

S.E.16.

**Back Numbers**

I have just come across the May issue of *Power and Pedal*, the first I have seen. It is just what I have been looking for; your objective tests reports and correspondence on readers' experiences are what I am particularly interested in.

I see that the issue I have is No. 6, and I would like to obtain the other issues which have been published so far. I enclose 2/6 in stamps.

J. NAIRN.

Greenock.

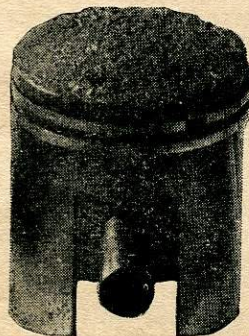
(A limited number of back issues are available if required and will be sent by post or through newsagents.—ED.)

**Our Test Reports**

I would like to say how very much I appreciate the honesty and fairness of your Test Reports. After reading similar matter in other (Trade) journals, where the object of the writer seems to be to produce a sales talk, in which a curtain is drawn over the defects of a particular model, or these are so under-stressed as to escape the reader's attention, it is refreshing and valuable to have your straightforward comments. It is of value, I believe, not only to the individual contemplating a motorised bicycle but also to the manufacturers of these motors. The latter of course can scarcely be ignorant of the shortcomings of a particular layout, but for them, as for the public in general, it is all to the good that such defects do not escape detection and definition.

The best advice I could give to an individual planning to motorise his bicycle, would be to try and get

**T.S.L. A SUPERIOR OIL FOR TWO-STROKE ENGINES**

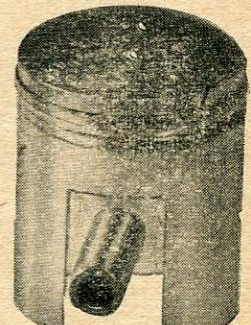


After 2000 Miles using an approved Branded Lubricant

To prevent bearing corrosion, carbon deposits, engine friction and wear

Saves 10% more petrol than other lubricants

Lively starting and continuous full-power development



After 2500 Miles using "T.S.L."

**NO PREMIXING**

1/4 pint "wallets" ..	1/2	1 quart tins ..	6/3
1/2 pint tins .. ..	2/3	1 gallon tins ..	17/6
1 pint tins .. ..	3/6	5 gallon drums ..	75/-

**SLIP PRODUCTS & ENGINEERING CO., LTD.**  
95 VICTORIA STREET, ST. ALBANS, HERTS

Telephone: St. Albans 5436

hold of your back numbers—he might save himself much pains and pence by so doing, and make a sound investment in riding happiness.

Very sincerely,  
F. W. M. QUIGLEY

S.E.5.

### Cyclenmaster M.P.G.

Regarding S. Mihill's remarks regarding Cyclenmaster's and m.p.g., the manufacturers are very fair in their claim of 200, Gamages stretch it a bit.

I tour South Somerset and North Gloucester which is very hilly, can negotiate any hills with a little pedal help at times—average 200 m.p.g. On the other hand, touring in flat country at a moderate speed, say 12-15 m.p.h. you should get 280 m.p.g.

Do not let the engine get too hot. Have a bit of a rest every fifteen miles or after hard engine work or you will lose quite an amount of petrol by evaporation. Experiment with the carburettor needle—second notch from the top I find best.—nice clean plug, timing as perfect as possible and bread and cheese petrol.

You must find out all the answers by trial and error. Other peoples' opinions should be listened to but not taken as gospel.

JOHN GREELY

*Fishponds, Bristol*

### Publicity

Some of those friends to whom you were good enough to send a "buckshee" copy of *Power and Pedal* containing the first "Pilgrim" instalment say they are unable to get from their newsagent a copy of the June number.

One says he got the July number on a bookstall where by chance he saw it.

This leads me to this thought:  
*The cover of "Power and Pedal"*

*is not sufficiently distinctive. i.e. it doesn't immediately proclaim what the magazine is about.*

Therefore something is wanted.

A cover with a design or motto or badge to tell potential readers on sight that the magazine deals with cyclemotors.

So could the paper run a competition with a modest prize for the winning design. Judges to be a panel of main advertisers in the paper—and who better?

ARQUATA

*Isleworth*

*What do others think?—Ed.*

### Two-Stroke B.H.P.

I think I detect a challenge in Mr. Roakes letter (July correspondence) when he asks me to name some two-stroke motors of similar size to the *Cucciolo* which produce the same b.h.p.

I can do better than that Mr. Roake for I can name two which produce **more** b.h.p. than the *Cucciolo*. The manufacturers of the *Cucciolo* in a sales leaflet claim 1.25 b.h.p. at 5250 r.p.m. This is a 48 c.c. engine. Both the *Mini-motor* and the *Power-Pak* for their 49 c.c.'s. produce 1.3 b.h.p. at 3,000 revs. per minute. My authority for this comes from "The Lightweight Motorcycle Manual" by B. Osborne.

Others produce less b.h.p. but I think that this can be accounted for by the fact that each motor is designed for a specific job and both the *Power Pak* and the *Mini-motor* move along at relatively high road speeds (with due deference to Mr. Gregory!).

My mileage on the *Mini* is now approaching the 20,000 mark and petrol consumption works out at between 200-220 m.p.g. depending on whether long journeys are undertaken or short ones.

One point on which Mr. Roake and I are not at variance is, on the value of *Power and Pedal*, I only wish it appeared more frequently.

Could you form a *Power and*

*Pedal* club Mr. Editor? I think it would be a real stimulus to the formation of local cyclemotor clubs. I hope my "digging" for power facts pleases Mr. Roake to whom I send my best wishes.

L. SMITH

*Newton-le-Willows*

### Cycle Rail Fares

Returning to London from a trip in Sussex on one of our recent delightful June days, I became convinced that slogging through the driving rain was a pleasure I could well deny myself. Dorking station appeared as a really attractive piece of architecture and I was drawn irresistibly to enquire the fare to Victoria. With the rain trickling down my neck 3/6 seemed to be a reasonable forfeit, but what about the motor-assisted bicycle? Four shillings and sevenpence!

On reflection it seems to be reasonable. My cheaper ticket gave me a seat in a crowded carriage with several sticky and overtired children, while my bicycle had a comfortable trip in a practically empty van. I loaded it and unloaded it myself and saw no sign of guard or porter at either end. All the same I can't help wondering how it gets such good treatment and fast transport by air ferry from Lympe to le Touquet for five bob.

F. N. ANDREWES

*London, N.2.*

### The Power and Pedal Insurance Scheme

The United Kingdom Fire and Accident Insurance Co., Ltd., advise us that, in view of the advent of the "two seater" cycle, they specifically state that their cover is fully valid when a cyclemotor is carrying a pillion passenger on a properly constructed seat securely attached to the machine. All existing policies under the scheme will be deemed to include this clause.

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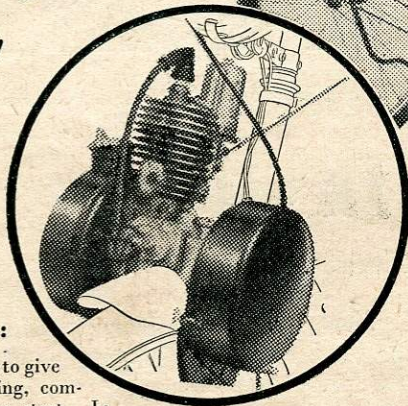
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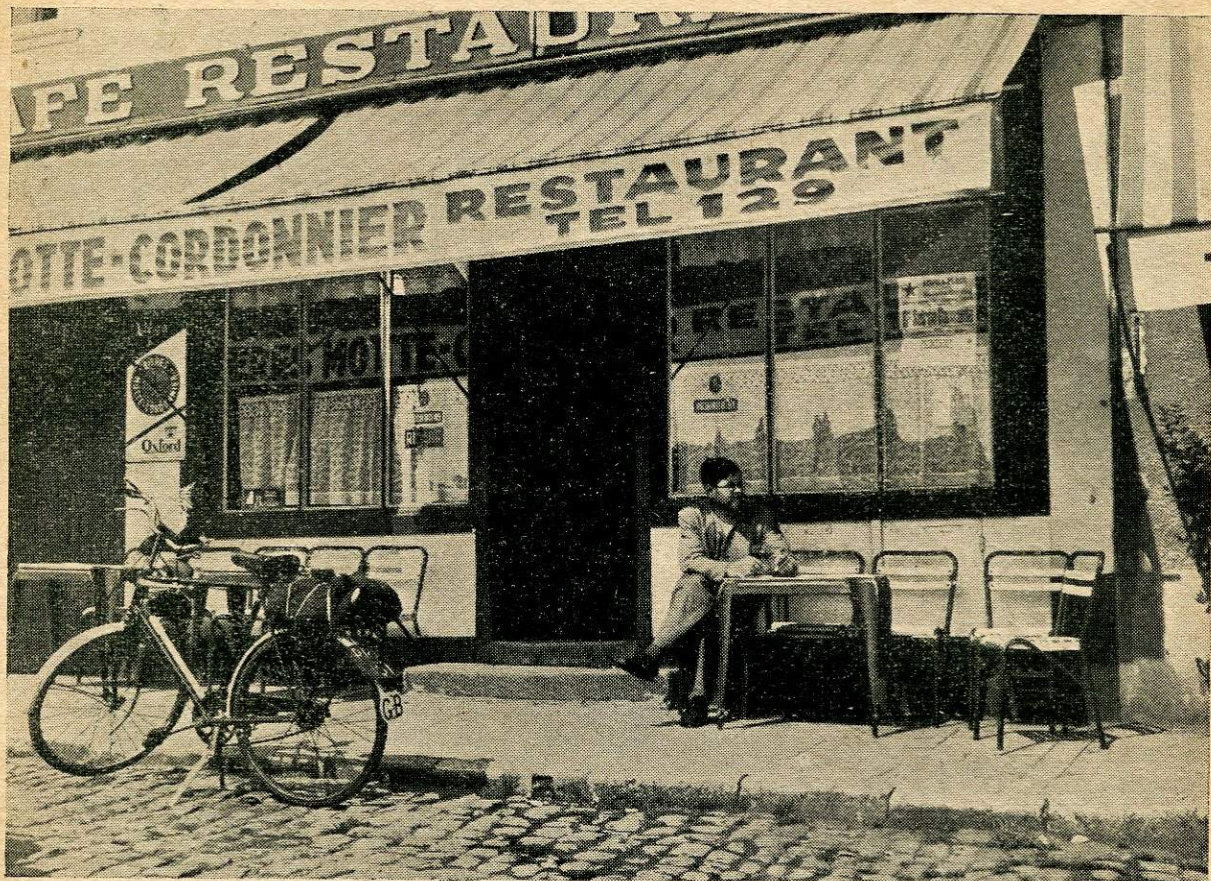
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*First Drink in France. Androcle and his "Berini" at Etaples*

## Idle and Insolvent

### The Editor Tours Abroad

WE are no longer so young as we were, Androcles and I, certainly not young enough to do things the hard way for pleasure. We had little cash to spare anyway and very little time. But we shared a nostalgia for France, which neither of us had visited since the war, and we felt we needed a holiday that would be more than just a temporary cessation of work, so we went.

It was surprisingly easy. We turned up at Lypmne Airport at the appointed hour, handed over

our tickets to the Silver City desk and had our carnets whisked away by the motoring organisation's representatives on the spot, took a beer apiece at the nearby Airport Club bar and returned to the office to find our machines already gone from the parking racks into the Customs shed. We followed them shortly afterwards, drifted through the trivial formalities of foreign travel and in due course took our own seats in the Bristol Freighter. Then came 20 minutes in the air, the same casual formalities at Le

Touquet, and soon we were religiously keeping to the right of the road, free, happy, and on French soil. Certainly not the hard way!

We had no schedules at all and, beyond the intention to wander around the Normandy coast, no plans. The Androcles *Berini* is slightly faster than my *Solex* so he automatically took the lead and I followed without a care in the world.

France means food and wine to right-thinking Englishmen and I knew I could trust him to find a

suitable stopping place within a couple of miles. He did, at Etaples and so began one of the pleasantest tours of my experience.

It is not the intention of this article to record our day by day progress, routes and resting places. Suffice it that we pottered amiably along the resorts among the sand-dunes that line the coast, eating well, drinking plenty and stopping at hotels wherever we happened to be around seven o'clock each evening. Indeed the chief difficulty was to keep moving since each place we saw seemed friendly and invited a stay. The impressions crowd up in retrospect but for all things the verdict is the same—It was good.

So far as the countryside inland is concerned, it differs little in general characteristics from our own southern counties. Pleasant lanes wind through rich agricultural territory and clean, well-stocked farms give an impression of settled prosperity that seems almost strange in country that was so recently the scene of some of the greatest and most terrible battles in the history of mankind. It is true that many of the towns and villages still bear the scars of war, but an enormous amount of rebuilding has been done and this itself lends interest. It appears that there is no need whatever for new rural building to have that awful, divorced, "council house" look about it that we see and accept as an unpleasant necessity here. New cottages, farms and village shops in northern France blend with the old and fit their surroundings perfectly.

The roads are fairly good, better in the country than in the towns. The virtually fixed cruising speed of my *Solex*, around 18 m.p.h., was perfectly comfortable all the time and gave leisurely freedom to see and appreciate all there was en route, so the *Berini* was kept throttled down a bit most of the way. There was very little other traffic on the secondary roads we

used and this was a great advantage over home ground.

Petrol supplies were not a problem since the garages were always reasonably near at hand and served petrol in single litres without question. At one place a hard-faced lady who appeared to be boss charged us 100 francs per litre but the standard charge appeared to be 80 frs. for the mixture pre-mixed on the spot. Full marks, however, must go to the modern Esso Station at Montreuil, where they produced a properly marked one-litre bottle filled with ready mixed petrol and fitted with a proper pourer-spout with incorporated filter, the service being dexterous, courteous and efficient. If Esso like to introduce that drill here they have half a million two-stroke users waiting to buy from them.

We used the smaller hotels and cafes and found the food uniformly good and the prices reasonable. A well-cooked and well served meal consisting of sliced ham or soup, followed by grilled steak with roast new potatoes and salad or beans, then fresh fruit or good cheese and coffee, including a bottle of sound wine between us, cost on average about 8/- per head and quantities were generous at that. Butter was delicious and plentiful and not charged for in the ridiculous little "penny-pats" we see in this country.

Beer is slightly dearer than here but wines and spirits much cheaper. We found quite satisfactory local table wines at 180/200 francs a bottle and did experiment with some at 150 frs. but it was pretty rough at that price. Cigarettes and tobacco are much cheaper too and we happen to like them, but they are not to all English tastes.

In all, having started with only a few pounds each and taken little trouble to seek economical ways of living, we found that we ate and drank literally all we could take and slept in comfortable beds in pleasant hotels for an average of thirty bob a day each. Such

standards would cost double that here.

I observed many cyclemotors in France but no clip-ons, they were all proper built-in-one-piece machines. The *Mobylette* has swept the market there and although it has only been going for two years more than fifty per cent. of the autcycles on the road were of that *marque*. Two garage men I talked to confirmed this estimate and one of them enthusiastically showed me his own mount which, he said, had done 30,000 miles, was on the road "*tous les jours*" and had never suffered the slightest trouble. I saw some of the deluxe models with telescopic forks, but most were the standard types and were being used everywhere by young and old, men and women, and sometimes both—they carry passengers frequently. Next in popularity was the *Solex* and mine created a lot of interest along the route.

Our own machines behaved quite well. Until a little while ago Androcles was under the impression that his motor was turned by little devils working a treadmill, but having seen me decoke it a couple of times he tried his hand and found it worked. Delighted, he now cannot be restrained from tearing the engine apart at every traffic stop.

At Rue, our first stage point, he decoked before breakfast, but loss of power later in the day when climbing the tough hill out of Ault, caused him to repeat the dose the following morning. He found the piston and rings badly scored. He admitted having assembled virtually dry the previous day and on checking up we remembered that we had pushed his jet needle down a notch a week or so before to reduce fourstroking. He was also using a pretty light proportion of oil to petrol. The combination of these things had given the engine a tough time on the long, hot runs, although it had served well enough for local utility work at home.

The jet needle raised, it ran well for for the rest of the trip and was still going strong a week later.

His standard roadster cycle also shed a nut or two during the trip and I think any ordinary cycle with attached engine should have a checkover each day on continental roads. My *Solex*, of course, was on home ground and did not need a spanner all the way.

Everywhere we stopped, without exception, we were received with friendliness and interest. There were some surprises as, for instance, when we engaged rooms and embarked on dinner at the Hotel de la Plage at Mers-Les-Bains, and then found that the Patron was a Yorkshireman. He gave us two good tips for travellers—For good feeding at low prices look for the *Routiers* sign outside cafes, where they feed the long distance transport men. The other was for choosing modest-priced wines—When in doubt ask for *rose*, it goes with anything. We tried one of the *Routiers* places, the Cafe de la Fertes at St. Valery sur Somme, had a super lunch and some lively discussion about cyclemotors.

At the Hotel Au Pigeon Blanc at Montreuil on our last evening in France we had an interesting conversation with the proprietor of a local garage, himself a cyclemotor agent. We went through a copy of *Power and Pedal* together and discussed the pros and cons of the

different designs. He plumped for a roller drive for speeds up to 20 m.p.h. for cheapness, silence and simplicity, and chain drive with bracket fitted engines for higher speeds BUT, insistently, NOT through the ordinary cycle chain.

It was at this hotel that I left my bunch of keys in my room. Mme La Patronne found them after we left, discussed the problem with another returning English motorist and, learning that I could be identified by the number on my R.A.C. key and concerned that I would be in difficulties without them, routed the bunch back to me in London within 48 hours. I only hope that a foreign tourist in this country would get such intelligent service without any possible reward.

That incident brings me to my epilogue. We left France regretfully, flew back and rode out of Lympne Airport about lunchtime. At the first pub on the main coast road we stopped and asked if they could provide us with a snack, sandwich, bread and cheese, sausage roll, anything at all. The barman disappeared for a moment and came back shaking his head. They were sorry but . . . . .

That holiday cost us a tenner apiece, including the plane fares, and we gone as we pleased and got what we wanted for the asking—Why tour in Britain?

F.L.F.

## Flashes

Freewheel wear with rear roller driven machines is likely to become outdated very soon.

Mr. H. A. Myers of the Maycoll Cycle Company has just filed a patent for "a pedal bicycle ratchet chainwheel for the elimination of freewheel trouble on roller-driven motorised cycles".

With this arrangement a fixed cog is used on the rear hub and the ratchets, springs and pawls of the freewheel mechanism are incorporated between the chainwheel and crank.

### Dunlop Progress

Further progress is being made to meet the demand created for the special type of tyre required for motorized attachments to cycles, Lord Baillieu, Dunlop's chairman, told the Annual General Meeting.

### Synthetic Rubber

Britain's need for an adequate supply of synthetic rubber was stressed by Mr. John H. Lord, Dunlop director, on his retirement from the presidency of the Federation of British Rubber Manufacturers' Associations.

"We shall need a proper supply in the future, and I speak of five to ten years hence, if our industry is to keep abreast of the times both as to sufficient raw material of whatever kind and as to the up-to-date and competitive types".

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## Pilgrims Progress IV

The last instalment in the adventures of a Pioneer

# Pilgrim finds the way

by  
Arquata

I'M fairly handy with spanners, etc., but have always been reluctant to interfere with anything that works with reasonable efficiency. The time came when I ventured to remove the cylinder head in order to clean it of carbon deposit. The jargon for this is, of course, "to decoke". By following closely the directions in the book of words I managed this and the result in performance was quite noticeable.

About a year after I'd had the machine and covered about 4,000 miles, I felt I was'nt getting the former lively note from the engine and speed had fallen noticeably. I wasn't unduly perturbed, thinking I'd got some poor quality petrol and that it's former liveliness would return with the next lot. But the condition deteriorated and the exhaust, formerly staccato was now much subdued.

Obviously a visit to the expert was indicated, and when I'd explained the symptoms he asked me to put on the engine, which I did. Without hesitation he said the exhaust required to be cleaned out. He seemed so sure about it that I asked him how he knew and he replied "Because of the noise it's making". "But" said I "It's hardly making any noise" "That's it" said he. He was a bit too young to have been a Sherlock Holmes fan, but I was reminded of the latter's retort to stooge Watson, when Holmes observed "Then



*The Writer "At Home" with his machine*

there was the remarkable incident of the dog during the night, Watson", "But the dog didn't make any noise at all" bringing Sherlock's crushing "Quite, my dear fellow".

This occurred at the time that petrol coupons were abandoned and he looked with a grin at the activity going on in the large car service depot when I asked if he could do the job for me. He wouldn't be able to do it for a while, things being as they were. He looked me up and down. "What about having a go at it yourself?"

He gave me a step by step drill which I took down carefully and when I got home sat by the machine and did the moves in theory. Then I started and to my pleasur-

able surprise, nay, astonishment, the engine went like a bird from the word go, after I had reassembled. The improvement was amazing.

My nephew is an expert on motor bikes; he is in business on his own account with them, and one day after a run round the houses on my machine suggested that I should cut down on the lubrication oil which would then give more power and more m.p.g. I was then using, in my blissful ignorance 22L, and, always ready to follow expert advice, I did so. In a graduated measure glass I measured out 8 ounces of oil, and put that in a can, filling up with one gallon of petrol. At the back of my head was the knowledge that 20 ounces of water equals one pint, but am

doubtful if this formula applies to oil. I can't say I noticed much difference in performance, until one day last August, having by this time changed the oil to SAE 10, I was on my way home when I noticed the engine was labouring heavily. It was a very hot day and there was a following wind; therefore the cooling was at a minimum. Alarmed, I pulled off the engine, and in doing so, felt that the carburettor was uncomfortably hot. Normally it's scarcely warm. Goodness knows how hot the engine was, but a shimmering haze came from it. I suppose I was very near a seize up. The lesson, of course, to be drawn from this is don't monkey with the quantities specified by the makers. Mother knows best.

For a reason which I can't now recall, I suspected the free wheel of misbehaviour, so got it off. It wasn't easy, but there is a small tool sold by cycle dealers specially for the job. One of the ratchet springs had got fouled. So I fitted another free wheel. I oil this frequently; someone put me up to this, for come to think of it, free wheels were designed for use in very short spells, downhill and so on with an ordinary bike, when on a cyclemotor it's just the reverse. So keep your eye on the free wheel.

Setting out one evening on what was intended to be a 25 mile journey I suddenly found that though the engine was functioning properly, I was going at little above walking pace. There was a good deal of side play on the engine and I later found that one of the nuts which secured the engine to the forks was missing, notwithstanding a so-called locking device. The firm stock replacements of every conceivable kind, so that there was no difficulty in getting the thing put right. The lesson here, obviously, is to go over all nuts and bolts periodically and so save possible trouble on the road.

The longest run I've made in one day was about 80 miles or so. As

my tank holds only  $1\frac{3}{4}$  pints, good for say 50 miles, it was necessary to take a reserve supply. I've tried several kinds of tin containers, all of which leak a little at the stopper. A bottle with a screw cap, holding about  $\frac{1}{2}$  pint didn't leak at all, but weight of a larger bottle would have negated its use. For the above trip I got an ex U.S. Army water bottle to hold 1 litre ( $1\frac{3}{4}$  pints). Just the job. Light in weight and cool. The snag was it wouldn't keep in the fuel, however I tried. Whether the vibration was responsible for this, I don't know, but very soon the bottle was smothered with a nasty film of oil. I tried a rubber washer closely fitting into the bakelite screw cap, but the petrol seem to disintegrate the rubber. There had been a thin layer of cork which was held to the top of the bottle by the screw cap, but I wouldn't risk this in case bits of the cork got into the tank and blocked the feed pipe. I'm still searching for the right sort of fuel container.

Well, boys and girls, those of you who have been patient enough to travel with me thus far, I hope you've been interested and perhaps at times amused with the narrative of my experiences.

I've had my *VeloSolex* for four years in June last and from my one and only experience of another make I'm sticking to it. Its a nice looker, it's quiet, very quiet, and she's not a fast lady. The most I've got out of it so far as speed alone is concerned is 16 m.p.h., or so a colleague told me who rode alongside me in his car. But it suits me for what I want it for. Riding daily to work, with an occasional jaunt into the country-side. Often I'm passed by riders on bikes, with cycle-motors attached, and at first I was a little envious of their speed. But whereas I feel supremely free and comfortable on my machine, these others, seem at any rate, to be all tensed up and rigid. They may not be, but to me

they look it'.

To those of my readers who are about to venture into this interesting method of transport and have not made up their minds as to type to buy: get hold of a rider of each of the respective types of engine and ask him (or her) to give you an opinion of the merits and demerits of his machine. Then it's up to you to choose and the best of luck.

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# MORE ABOUT NEW MOTORS

## The VINCENT

WE recently had the pleasure of visiting the Stevenage works of Vincent Engineers (Stevenage) Ltd., makers of the new *Firefly* cyclemotor engine reported on briefly in our last issue.

Although the Vincent company is best known to the road using public as manufacturers of super motorcycles, they are actually engineers with many and varied interests and this is reflected in the activity of their very well equipped factory. We saw *Firefly* parts being made in various stages up to the assembly of complete engines ready for despatch and were most impressed by the quality of material and workmanship that goes into these engines. They are real precision-built jobs worthy of the fine

reputation of the Company.

We also took the opportunity of a short test run on the machine and found it a very lively unit, easy to handle and with exceptional power where it is most needed, low down in the speed range. A full length test is being arranged immediately.

## The TEAGLE

YET another new engine reported is the *Teagle*, an over-the-rear-wheel job of 49 c.c. that fairly bristles with interesting features.

The *Teagle* cyclemotor unit as an adaptation of a range of industrial engines known as the *Teagle Minor* light two-stroke engines manufactured for portable agri-

cultural machinery, which explains the attention to detail and the particular points of easy maintenance in the absence of gaskets in the monobloc design, super-cooling and high quality materials. It also makes practicable the most attractive servicing idea we have yet seen in the business, replacement engines on exchange from agents at £4 each, a service that should mean trouble free running for ever. The original engines are covered by a 12 months guarantee. We will publish more complete information as soon as it becomes available and look forward to road testing one of these interesting engines at an early date.

Makers: **W. T. Teagle (Machinery) Ltd., Blackwater, Truro, Cornwall**

## The B.S.A.

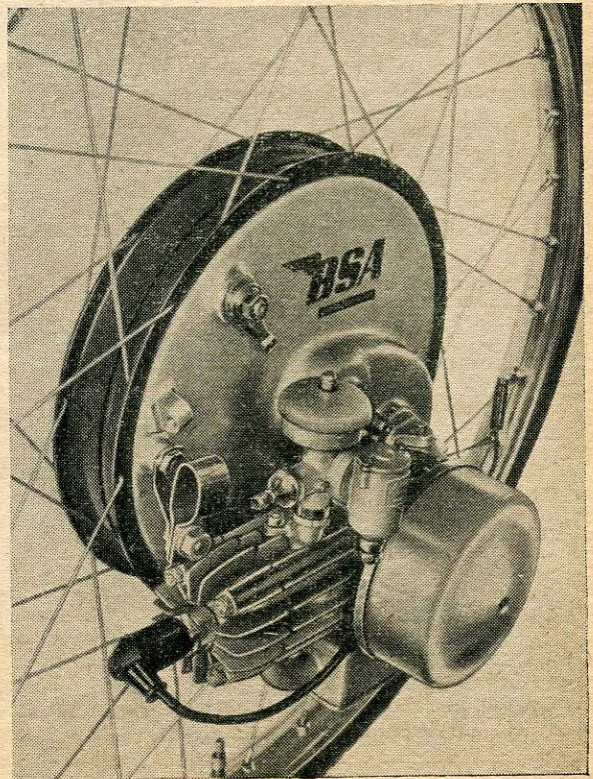
### "WINGED WHEEL"

FURTHER to our earlier notes on the B.S.A. rear hub unit, we have received further information from the makers who maintain their claim that the engine does in fact give 1 b.h.p. from its 35 c.c. They quote this figure at 6,000 r.p.m. which, on a gear ratio of 18.7 to 1 gives a road speed on the flat of approximately 26 m.p.h.

Such figures are more than interesting in the cyclemotor world where we have been accustomed to engine speeds between 3,000 and 4,000 r.p.m. with correspondingly lower power outputs per cubic centimetre capacity. The new B.S.A. should set some very high performance standards on these figures and we look forward to the promised road test with real excitement.

*A view of the new B.S.A. hub unit.*

*The hub shell itself contains a 9½" internal expanding brake.*



## Cameracraft

# A RULE FOR GOOD PICTURES

by

A. G. ROBINSON

THIS is not an involved article on picture composition, but one that explains a simple rule which, if followed, *does* give more pleasing photographs.

There is really quite a lot in whether a picture, if only the smallest of sizes, is correctly composed, and when a person looking through your prints says: "I don't know why it is, but I like that snap—it satisfies", it's a thousand to one that knowingly or unknowingly the golden rule has been followed. For that is what following the rule does—it makes the picture *satisfy*.

Whole books have been written on the subject of composition and some seem to err on the too pernickety side; but there is this one rule which, if followed, for some strange reason certainly does make a picture look infinitely better, and which if broken leaves an unfinished appearance. It is known as "The Rule of Thirds".

Take a good look at Figure 1.

Briefly, the picture that is going to be taken is imagined as divided up by four lines, two vertical and two horizontal. These are drawn, as will be seen, from points which divide the edges of the print into three equal parts both ways—hence the name "rule of thirds".

Now the law is that anything of major importance in the scene must fall on or very near the points of intersection (a), (b), (c) and (d). If the important item is long and extended then it should lie on or nearly on one of the lines. A good example of this placing comes with the horizon in a seaside

picture. Now the horizon is "important" because it divides the mass of the sea and expanse of sky, and a satisfying picture will be obtained if it lies along the upper or lower "thirds" horizontal line (as fig. 2) but how unsatisfying the picture looks if the horizon comes

difference that this bit of correct composing makes'

Anything of importance of a vertical section should lie on one of the vertical lines, either side, and any massed item should have its centre on one of the four intersections. Near-in items class as important although the rest of the picture may be interesting, and so should be located on the intersection. A single person in the foreground is an important item, as would be a close-in house, clump of trees, etc. Often it will be found that you can use both a horizontal line and intersection, as when there is a range of hills across the scene and some item near in—or as in the case of the horizon just mentioned.

right in the centre, or too high or too low.

A few experiments in trimming an old sea snap will show the big

The rule of thirds does not mean that all the horizontal and vertical lines and intersections should be

*The editor will welcome well-illustrated articles on cameracraft as applicable to cyclemotor users' needs.*

*Reproducible photographs with the right angle are also regularly needed.*

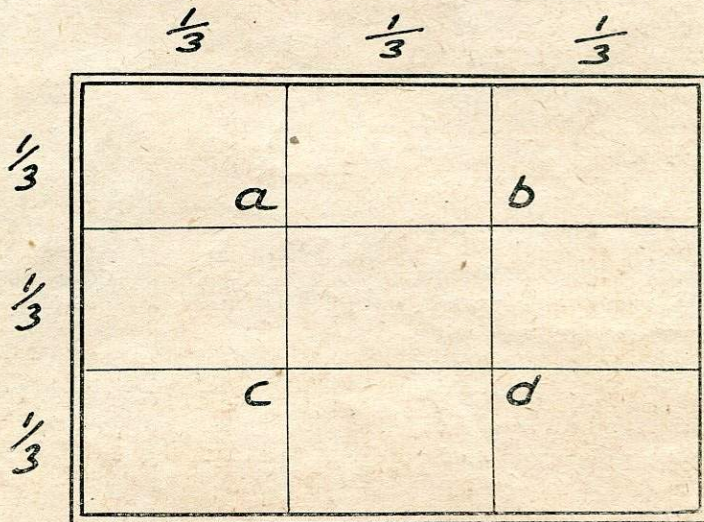


Fig. 1.

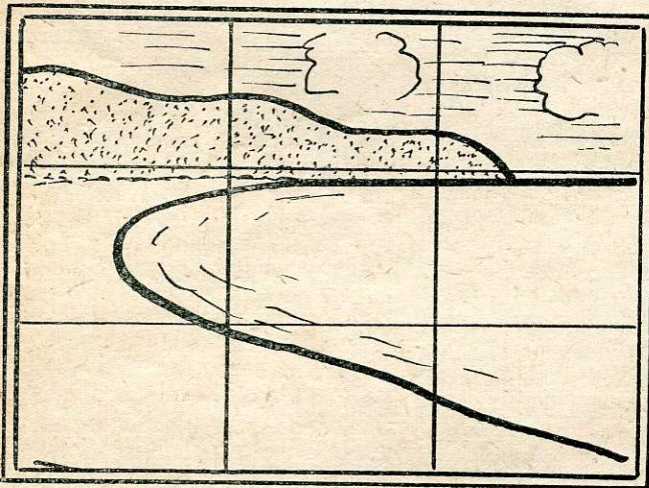
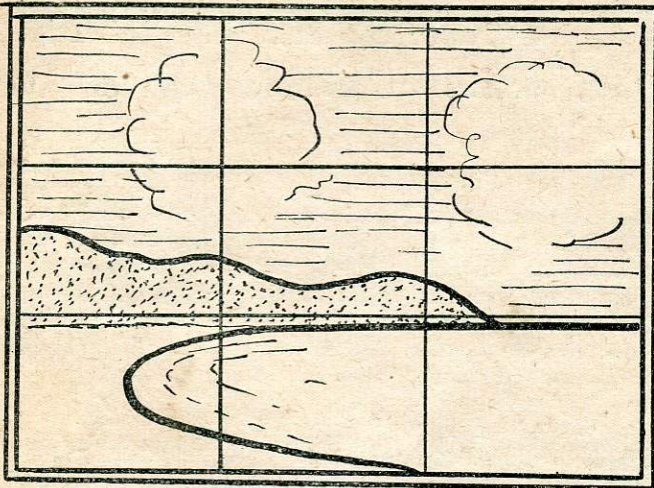


Fig.  
2.

by ruling pencil lines on the ground glass at the thirds position. It can be seen at once then if the major items are falling on the strong areas. With a small finder it is not easy to mark the glass, but "third" points can be indicated with advantage on the metal surround, and it is not hard then to imagine lines running across. If you always just have contact prints made then greater care is necessary to get the composition right to start with than if enlargements are made—for here a good composition can be often secured while the big print is being turned out—even if it doesn't exist on the negative. But even then the general rule should be aimed at from the start.

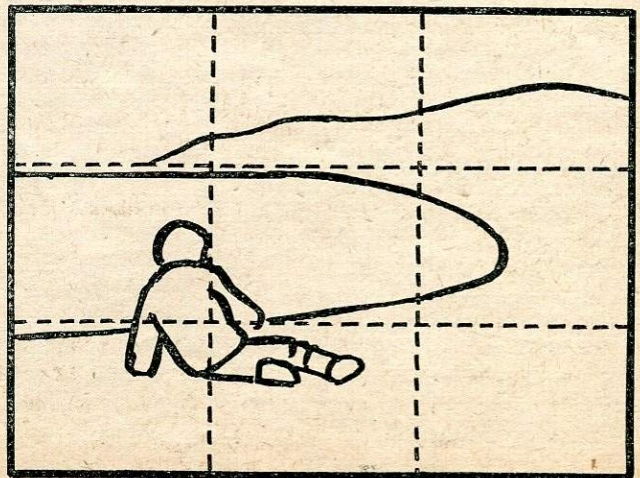
Television owners have an opportunity of seeing a landscape excellently composed to the "Rule of Thirds" in the interval windmill picture that is often put on. Here the mill stands on the right vertical thirds line. The sails, which are a strong item, are on the top intersection and the horizon on the lower horizontal. I have heard a lot of people say how completely the picture satisfies and it is mainly through following the golden rule. Try it out therefore on your touring snaps this year.

filled, but that important items must fall on or near these locations, which is rather different.

This putting of major items in what are termed the "strong positions" is really very simple and once you have got the rule well in mind it is more difficult to forget than remember it. In fact, you find that unconsciously the test of "thirds" is being continually applied—but doesn't it just make a difference to the picture. This cannot be too strongly stressed.

The whole idea can be assisted if you use a focusing screen camera

Fig.  
3.



## WE ASKED THE MAKERS: A Paper by Mr. Stillman, Chief chemist to Edward Joy & Sons Ltd., makers of Filtrate Oils, on the Lubrication of small 2-stroke engines.

THESE small engines—"Clip-ons", as they have come to be known are lubricated by the Petroil system, i.e., the lubricating oil is mixed with the petrol and is not supplied from a separate tank.

When the mixture of Oil/Petrol and air is drawn into the engine it is first compressed in the crankcase and subsequently passes, under pressure, through the transfer ports into the combustion chamber. Whilst under pressure in the crankcase, some of the oil condenses out and serves to lubricate main and big end gearings, etc., whilst the remainder is transferred, with the petrol to the combustion chamber.

The oil which reaches the combustion chamber serves to lubricate the upper cylinder and ring area before being burnt away with the fuel.

Oil and Petrol belong to the same family of compounds known as Petroleum. Both are composed of the same elements—Hydrogen and Carbon and when burnt, under certain conditions, both will leave a deposit of Carbon. The amount and physical nature of the Carbon will vary with the general structure of the Hydrocarbon compound. As a rough guide, low boiling, volatile products like petrol, form a soft, soot-like carbon, whilst the heavier oils used for lubricating form a hard carbon which can vary in density and hardness according to the type, degree of refining and viscosity of the lubricant.

When a mixture of petrol, oil and air is burnt off under controlled conditions in an engine, the products of combustion contain the oxides of carbon, water vapour and free carbon in the form of "smoke".

Most of this passes out through the exhaust and is dissipated into the atmosphere. Small amounts of water vapour and "smoke" however tend to condense on the relatively cool parts of the engine adjacent to the exhaust and remain in the engine. The water frequently finds its way down into the crankcase free to set up corrosion problems in the bearings, and the carbon builds up on the piston crown or as a "curtain" across the exhaust port. If this carbon gets hot enough it will burn away and it is well known that in larger, more powerful engines this actually does take place.

It happens sometimes however that the temperature in the combustion chamber is just not high enough to burn the carbon away but is enough to cause it to become incandescent which condition gives rise to precombustion—causing engine knock, or "running-on" after the ignition has been cut off.

Sometimes also, a small "thread" of carbon will form across the plug points to cause shorting and starting difficulties. It must not be supposed however that plug gap fouling can be traced only to the use of highly leaded fuel or fuels and lubricants containing certain other additives.

An excess of oil in the petrol can also cause plug fouling which insulates the plug points and prevents the formation of the necessary spark.

Particles of Hard carbon can become dislodged from the piston crown and become trapped between piston and cylinder walls to cause scoring or ring seizure

The ideal lubricant for small "Clipon" engines is one which

will form the lowest possible carbon deposit, which does not contain any chemical likely to react with anti-knock agents in the petrol, and which will lubricate efficiently in the smallest possible amounts.

The usual recommendation is for 1 part of oil in 16 parts of petrol, any excess over this amount leading to oiled up plugs. If however too thin an oil is used, too much is likely to get into the combustion chamber with a possibility of oiled up plugs and of course lack of lubrication of the bearings.

It is becoming increasingly apparent that the viscosity of the lubricant is very important since this physical characteristic largely determines the size of the oil droplets which condense out in the crankcase and of course, the amount.

One of the problems associated with "Clipon" engines is fairly rapid loss of power due to carbon build up in the form of a "curtain" across the exhaust port. When it is remembered that the dimensions of the exhaust port is much less than that of a postage stamp it will be realised that it does not take much carbon to reduce the aperture to a point where the efficiency of the engine is considerably impaired.

If the amount of oil in the "Petroil" mixture is reduced in an effort to offset "carbon" deposition, bearing lubrication may suffer. There is growing evidence which shows that a heavier bodied oil can safely be used in a lower proportion that 1 in 16 ; 1 in 24 has been used successfully and in order to find what extremes can be reached, 1 in 48 is under test,

## ROAD TEST REPORT

# The Webb Spring Fork

A spring fork must be inconspicuous in appearance, light in weight and must do its job without altering the natural feel of the machine on the road. The *Webb* stands up to the test beautifully and thus qualifies as a Good Thing.

As most of our readers will already know, the distinguishing feature of this design is that the coil compression spring is *inside* the steering column itself, only a couple of inches being visible when the machine is unladen. The main fork is perfectly ordinary except for the fact that the "D" to round blades are straight instead of following the usual forward curve. In front of these is the sprung part of the assembly, a pair of blades parallel to the main fork and located at the top by a hinged

bracket and at the lower ends by a pair of double side plates. A rubber stop at the base of the spring and two small ones between the fixed and moving blades prevent clashing under violent impact.

The front wheel fits into the slotted ends of the moving section blades in exactly the same position as it would occupy relative to the head in a normal rigid fork, thus preserving the same steering geometry.

The machine tested was fitted with a *Cucciolo* unit that had all the speed necessary to give the forks a real testing. Speeds well up to 40 m.p.h. were reached and maintained over varied roads with the cycle rock steady driving or coasting and the rider perfectly happy. With a fairly heavy rider pre-loading the spring the movement range available was not very great and no up and down movement was noticeable. In fact, the outstanding impression of the

handling of the machine was its complete normality except for the fact that the back wheel felt bumps that the front had apparently ignored.

On really bad roads, of course, the forks bottomed frequently but the rubber stops made this much less of a wrist strain that would have been the case with rigid forks and the machine as well as the rider was getting the benefit of this reduction of stress. Braking seemed to be completely unaffected by the movement except that the improved road adhesion of the sprung wheel enabled the front brake to be used hard under adverse conditions with perfect confidence. There was no side float whatsoever.

To sum up, the *Webb* is a thoroughly efficient fork, clean in design and appearance, robust in construction and pleasant to ride.

The makers are: **H. C. Webb, Ltd., Tame Road, Witton, Birmingham, 6.**



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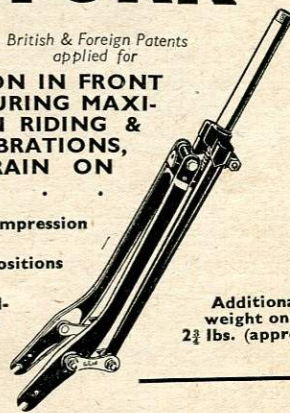


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## REVIEW

"Daily Mail" Motorcycling Guide. Price 1/6 from book-sellers.

WE received with interest a neat and compact one-and-sixpenny booklet called the *Daily Mail Motorcycling Guide*, edited by Courtenay Edwards, the *Mail's* regular motoring correspondent.

The 128 page booklet is rather a hotch-potch of information on motorcycling matters, covering all types from our own little motors to three-wheeled cars, listing all known makes on the British market with illustrations, a year's diary of events and a number of articles on various machines and matters of general or specific interest.

The cyclemotors get only a few pages of illustrated potted specifications and an article headed "Cyclemotor Maintenance" which however, turns out to be the one

we already know on "Cyclemaster Maintenance". But this should not discourage readers who have any general interest in motorcycling matters at all. The Guide is good reading and full of odd bits of information. We think it a good buy at its modest price.

## CLUB NEWS

At the recent Annual General meeting of the British Two-Stroke Club the decision was minuted to admit the cyclemotors as entrants to the two touring trials organised by the club. This is in addition to cyclemotor trials as such which are organised by the Motor-Assisted Cycle Section.

All these trials are "closed" events and, therefore, open to club members only. Details of competitions and club membership are available from the Secretary: Mr. B. Evans, 10 Elia Street, Islington,

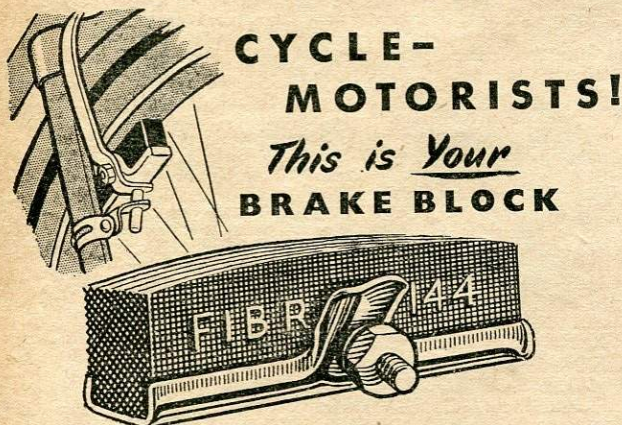
N.1.

The runs for August, to which non-members are cordially invited, are as follows:

Sun. 2nd **Clacton**, Cookery Nook Cafe Newbury Park, Eastern Avenue, 10 a.m.  
Sun. 16th **Whipsnade Zoo**, Welsh Harp, Edgeware Road 10 a.m.  
Sun. 30th **Littlehampton**, Jack's Cafe Morden Underground Station, 10 a.m.

## BOURNEMOUTH I.T.A. RUNS

Sun. 2nd **Portland Jail**, Bear Cross, 12 a.m.  
Tues. 4th **St. Leonards** (Pied Piper) Bear Cross 2.30.  
Sun. 9th **Avon Beach**, Mudeford. Bear Cross 2.30  
Tues. 11th **Matchams Cafe** (Hurn), Bear Cross 2.30.  
Sun. 16th **Milford-on-Sea**, Ilford Bridge 12 a.m.  
Tues 18th **Hamworthy Park**, Bear Cross 2.30.  
Sun. 23rd **Blandford Brewery**, Bear Cross 2.30  
Tues. 25th **Alum Chine**, Bear Cross 2.30.  
Sun. 30th. **Bath** via **Salisbury & Warminster**, Bear Cross 10 a.m.



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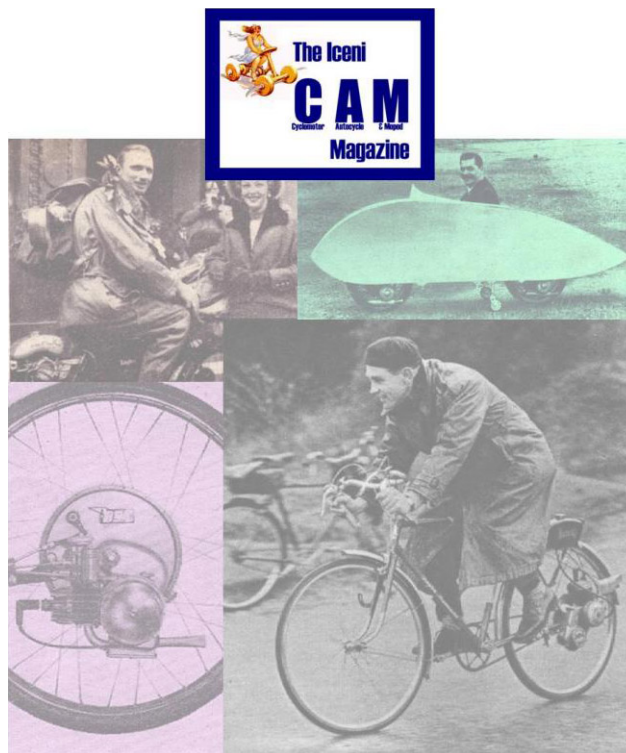
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