

## AN UNUSUAL VINCENT

Mike Todd

MPH 599

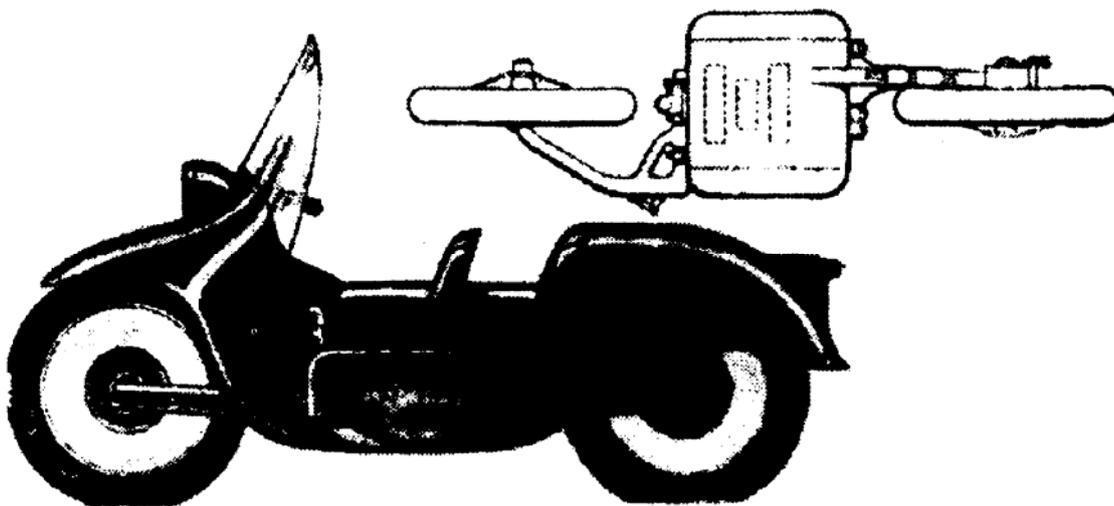
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Around 25-30 years ago, when working in the USA, I had some time to spare while in one of the bigger cities and went into a library. I headed straight to the transport section as usual. Quickly flicking through a basic motor-cycling book called *Motorcyclist's Album*, I passed the page on which the Series 'E' Vincent was shown and my mind registered Series 'D', but not quite. I thumbed back and saw this particular drawing which I had never seen before and have never seen since. I had a photocopy of the page made and went on my way. I wrote a few details down with the intention of getting a copy of the book. The road to ruin is full of good intentions! The photocopy is not good and you may not be able to print it. If anyone in the USA can track the book, obtain more information and a better copy of the picture, I'm sure many members would be interested.

The bike is fully enclosed, similar to a Series 'D', but with a resemblance to a motor scooter. The engine is a two-cylinder opposed two-stroke. The rear drive is shaft, with a single sided swinging arm. I cannot see the front suspension, but it has hub centre steering.

Details of the book are: title: *Motorcyclist's Album*; publisher: Ivan J. Stretten, 3529 Harper Ave, Detroit 11, Michigan; date of publication: April 1947. The drawing is on page 11.

*[I have cleaned up Mike's photocopy as best I can, so I think it is worth reproducing. I immediately thought I had seen this concept before, but cannot find it in any of the literature I have (but no doubt someone will know where it has appeared!), but there is a sketch of the proposed Marine-engined Vincent on page 107 of Roy Harper's Vincent HRD Story, which has the same front suspension etc, although it has a normal tank and a dual seat and it looks a bit like an Ariel Leader - Ed.]*



**Chassis and body view of the Vincent H.R.D., opposed-piston two-stroke, two-seater motorcycle made in England.**

## UNORTHODOX IN THE EXTREME

Scrapbook

MPH 609

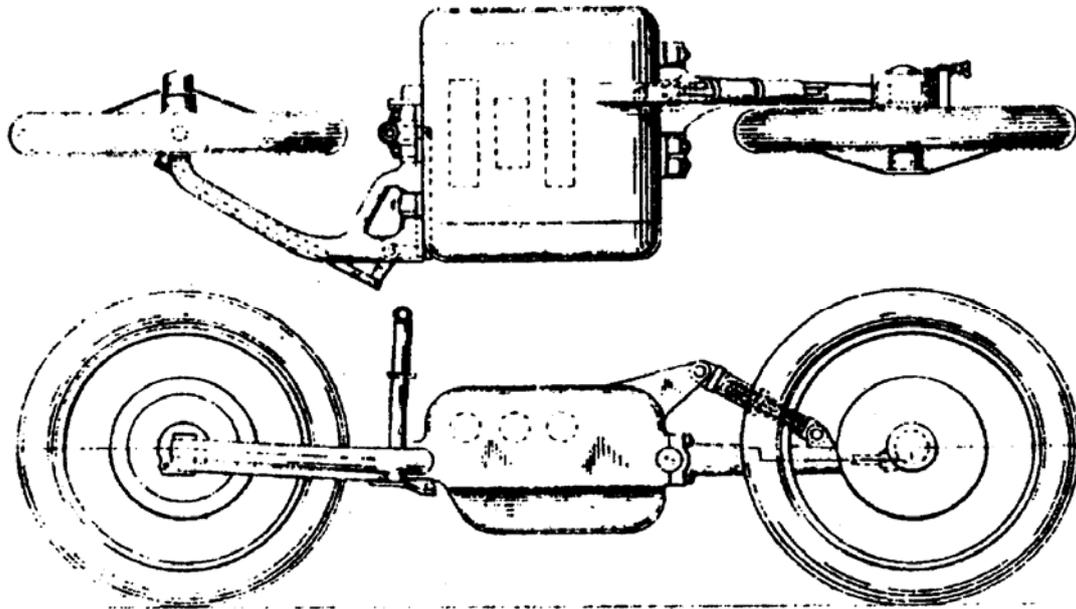
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You may remember that in the correspondence pages of the December 1998 issue of MPH, Mike Todd wrote about an unusual Vincent. Chris de Whalley and Gordon Powell have sent us copies of the following article, which describes the proposed Vincent (although the drawings show a slightly different bodywork design, as I mentioned in my footnote to the letter). The article originally appeared in *Motor Cycling*, November 4th 1943. I think you will find it interesting.

### **A Remarkable Vincent-H.R.D. Design Which is the Subject of Several Patents**

Amongst recent patents relating to motorcycle design none is more remarkable than No.555,975, applied for on January 6, 1942, and taken out in the name of the Vincent H.R.D. Company and Phillip Conrad Vincent. The basic conception covered by the specification is that of a motorcycle without a frame. In other words, instead of employing a tubular or pressed-steel construction to support the power unit and wheels, the engine itself serves the dual purpose of chassis and prime mover.

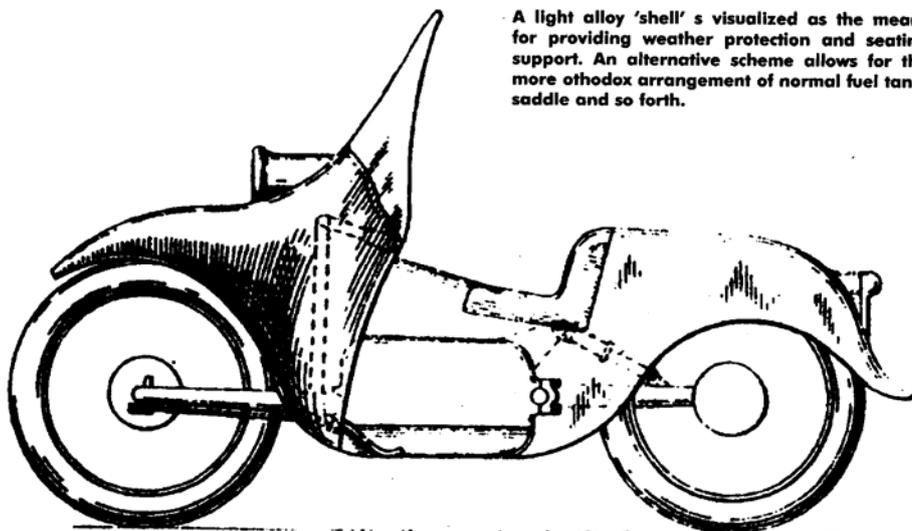
As regards the power unit, as it is the subject of further patents we have been asked to say nothing other than that it is a water-cooled two-cylinder two-stroke of the twin crank-opposed piston type working in conjunction with a special charging cylinder, the whole of the mechanism being enclosed in a massive box-like light-alloy case which acts as the foundation for the substructure carrying the seat, fuel tank, steering column and other details, whilst it also acts as the base to which the wheel-carrying arms are attached.



The 'frameless' Vincent-H.R.D. design shown in plan and elevation. Note the traverse disposition of the twin two-stroke cylinders with central charging cylinder, indicated by dotted lines. The arm carrying the front wheel is sprung by torsion bar, whilst the rear wheel movement is governed by a coil spring. The engine, gear unit and universal joint are completely enclosed in the box-like structure.

### Variations

Alternative methods of mounting these wheel arms are described. For example, one illustration shows the front swinging member controlled by a torsion bar held at one end by a suitable lug formed on the case, whilst the other end is splined to the outer extremity of the wheel arm. If desired, however, the arm can be bolted rigidly to the case whilst the wheel hub is free to slide up and down a vertical spindle mounted in a special jaw joint, the movement being controlled by suitable coil springs as shown. Yet another construction is illustrated where the swinging rear wheel support is controlled by a telescopic spring member attached to suitable lugs formed on the propeller shaft tube and the engine case. The use of cantilever spring support members fore and aft in place of tubes or forgings is also visualized.

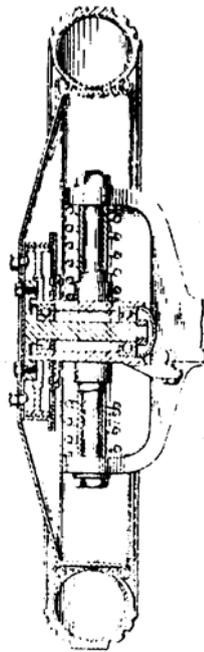


A light alloy 'shell' is visualized as the mean for providing weather protection and seating support. An alternative scheme allows for the more orthodox arrangement of normal fuel tank saddle and so forth.

The foregoing details by no means exhaust the novelties in the design. It will be noted that both wheels are mounted on stub axles and that they are of the quickly detachable type. The rear stub axle carrying the crown wheel is supported at

each end in sturdy ball bearings, the outer one of which is mounted in a detachable plate. The propeller shaft is, of course, provided with a suitable universal joint within the engine case. The method of operating the steering by bell cranks and ball jointed rods is shown clearly in the main illustration. It is intended that lubrication of the power unit and shaft drive shall be carried out by oil in constant circulation contained in the deep, large-capacity sump below the engine.

The designers object is to produce a machine which will enable the rider to remain seated in a normal position behind really efficient all-weather equipment without sacrificing the highest usable road performance. It is suggested that the large-scale employment of light alloys in the construction allied with an exceptionally high power output will result in a power weight ratio giving the desired result. As one illustration shows, the patent drawings depict a light alloy shell incorporating front and rear mud wings, seat, windscreen and dash, legshields, front and rear lamps and footplates, whilst a two-seater in-tandem arrangement is also contemplated.



**Of the various suspension methods listed under the patent specification, the design illustrated here shows the greatest reduction in unsprung weight. Note how the front hub slides on a fixed spindle under the control of coil springs.**

It is appreciated by the designer that such a conception may appear to be too drastic to believers in orthodoxy, and an alternative specification will probably incorporate a normal type tank, mudguards, etc, giving a relatively 'standard' appearance.

When considering the design as a whole it is advisable to remember that patent specification drawings are largely diagrammatic, and certain features will not necessarily appear in the finished article in the positions or the proportions shown. It should also be added that this revolutionary design is not intended to replace the well-known standard range of Vincent-H.R.D. models, but to be supplementary to them. Indeed, the big twin 'Rapide' is at present undergoing a number of modifications which would considerably enhance its already imposing appearance, whilst at the same time adding still further to its exceptional performance. In this connection, amongst other patents recently taken out by the company is one covering hydraulic clutch operation, whilst experiments are being carried out with another type of clutch which automatically increases its grip in proportion to the load to be transmitted.