FROM UNDERGRADUATE TO MANUFACTURER

John Webber *MPH 385* *Page 24*

In the last couple of issues of MPH I have included articles written about the Vincent Company at the time of its closure, which have created some interest among members, so I thought you would probably be interested in the following article which appeared during the dark days of war, in the Motor Cycle of September 19th, 1940, to be precise. I realise that most of us already know almost all the facts in the article, but it is interesting to read what a contemporary writer had to say of the man who made it all possible for us.

Undergraduate to Manufacturer

"Torrens" Relates the Tale of a Youth Who Was Determined to Become a Motor Cycle Manufacturer

A tousled-headed boy, with wind-swept eyes and wearing a rather tattered competition coat, entered the office. Was "Torrens" in, please? No, sorry, but it's Press day; he is over at the works, the other side of the river. Could he go along and see him? He had come from Cambridge and wanted to see his on business very particularly.

This was in 1927. Our offices were in Tudor Street - not alongside the Works, the Dorset House of to-day. In due course the visitor found himself at the Works. Perhaps the word "boy" I used earlier is not quite right; "youth" would be better, for, as I now know, he was nineteen.

I smiled to myself when he told me the reason for his visit. He had decided to chuck Cambridge and set up as a motor-cycle manufacturer. I smiled because, young though I was in the motor-cycle game, it was not the first time I had met lads determined to become. motor-cycle manufacturers. There is more than a little glamour in it - in my youth I've even been tempted myself. But, of all with whom I had spoken, not one had ever gone ahead and made a success of it. Was there any reason why this slight, pale, serious. looking young man should be the exception? He was obviously a determined young man; he must be to have decided to cast aside life at Cambridge after a year doing engineering.

Question of Capital

What was the machine like, I wondered, the machine he proposed to manufacture? First, however, a general chat about making motor-cycles as a profession: The stern competition, having regard to the large number of motorcycle manufacturers, the need for capital, specialist or quantity manufacture, need for a clear-cut idea of the market for which one is catering, and so on and so forth.

The question of capital did not seem to worry the visitor very much, which was unusual. As a rule, when I had touched upon the money side with previous seekers after advice, I had found that they had had very hazy ideas about the amount of capital required. This visitor, however, did not appear to think there would be any difficulty about getting together sufficient capital. Apparently a pet saying of his father was that you dug it up in the garden. Father was a farmer in South America; money would be forthcoming - in any case, the son did not intend to run before he could walk: he was determined to start in a small way and gradually expand. It sounded all right. What about the machine he was going to produce? That was outside. He had made it with Cyril Newberry and the latter's brother at a small garage at Chesterton, near Cambridge. Its great feature was a spring frame that gave real comfort and superb steering. That spring frame was to be the basis of the machines he made - it would save the great British public from being bumped about!

But before examining the machine, a further question: Was it not good idea to buy up the name of some make that was no longer on the market, say, that of "Omega" or "HRD"? Wouldn't it facilitate marketing the new machine and overcome some of the difficulties of becoming established that I had mentioned? I replied that, subject to it not eating too far into the available capital, it would probably be a very good thing. He favoured the HRD, he said, because of its TT wins and the excellent name it had gained.

Adjustable Head Angle

Then we did examine the machine he had made, the machine which was to be the forerunner of the motor-cycles that were to save the great British public from being bumped about. The little snap, the only photograph in existence, shows you what it looked like. You will agree that it is hardly pretty, and I cannot say that I felt it held out much hope for the manufacturer's successful career as a manufacturer. The pin-joint frame might be rigid and immensely strong, but what a maze of tubing. It was an extraordinary machine; there was even an adjustment for the angle of the steering head. The steering-head lug was screwed internally at the top; this is, the portion into which in a normal design the top tube is brazed. A screwed length of tube went in this, the tube being brazed into an engine-plate lug, which, in turn, was attached to twin, side-by-side tank rails. Since the bottom of the head was attached to the frame by pin joints, the steering-head angle could be varied in a matter of minutes, and the best layout for steering determined.

In Twelve Years
This springing was of the hinged type. As for the rest of the machine, there was a 350cc MAG engine, the proprietary engine made by the Motosacoche concern in Geneva, a Sturmey-Archer gear box, and standard this and that. I confess that I did not see much chance of success. Enthusiasm, a certain amount of capital, a year at Cambrige and a long vacation spent at Thornycroft's marine works seemed far from adequate. But I had underestimated the determination of this quiet young man, and while I forgot about the matter he was going ahead. In Easter, 1928, he decided, "No more lectures! " and Cambridge lost sight of him. He had said he would start in a small way; he began in an extremely small way, taking a little wayside garage at Stevenage, Herts. The exterior of the works to-day is still that small garage, but instead of merely some spanners and a small hand drill there is now, twelve years later, one of the best-equipped machine shops in the country - some 50 modern machine tools. Ward capstan lathes, Archdale millers, and so on, and nearly all new in the last year or eighteen months.

Yes, he bought up the HRD name, and in June, 1928, the Vincent-HRD Company was incorporated. At the invitation of Philip Vincent's father, Mr. F. R. Walker joined the firm - an engineer of the old school in training and modern in thought - a man with A.C.G.I., M.I.Mech.E. and A.M.I.C.E. after his name, and knowledge of real engineering gained in many parts of the globe Another man who joined Phil, though only for a few months, was Brian Twist, who a little later was to become a journalist - usually, it is the other way round! W. Clarke - Bill Clarke, of trials fame, did not link up with Vincent until later - about the end of 1931, when he came down from that other scholastic institution, Oxford. Reason for amalgamation of interests? Same sort of craze! It was not until September, 1933, that John Pett, known to motor-cyclists by the thousand, arrived on the scene to become sales manager.

Two other motor-cycles had been made in the meantime, or should I say "assembled"? Both were three-fifties. One had the standard ohv JAP engine, and the other the racing JAP. The latter was run in the 1928 200 Miles Race at Brooklands, and, to everyone's amazement, including Vincent's, finished sixth at 67.58 mph; the rider was Brian Twist. After this three months were spent striving to produce five models for the Olympia Show. True, nearly every part was built for Vincent-HRD's, but each and every supplier took about three times as long to produce the bits as he had said. The firm was merely an assembler, using JAP engines, frames built by a near-by concern, wheels and other parts in Birmingham.

Chasing Bits and Pieces
Over the fortnight previous to the Show, Vincent made ten 200-mile journeys to the Midlands chasing up bits and pieces. Consequently there was no photograph to be obtained for the Motor Cycle Show Guide. Somehow or other the machines were completed and got to Olympia by the time the doors opened. The machines had the original triangulated, strutted frame, with enclosed Druid-type springs for the rear-wheel springing. Altogether, the jobs looked very much better than the original pin-point model, but still far from sleek and well groomed.

Vincents had started - not only that, but exhibited at Olympia. There had been many visitors to the stand; would they, or a useful proportion of them, decide to purchase? In one's dreams, after all the striving, one lives in hopes that it is merely a case of sitting back and taking the orders, but life does not usually prove to be like that. The truth must be told: Except for eight good if (to quote Phil's words) somewhat blind friends, precisely two motor-cycles were sold in the first year to honest-to-goodness members of the British public. The Continent was more discerning (Phil's words again!), for 14 machines were exported: five to Austria and the rest to France and Switzerland. The sum production for the first year was 24 motor-cycles - roughly, one per fortnight.

When the next Show was in the offing Vincent did what I was hoping he would do; he brought me a photograph of the proposed model and I got one of The Motor Cycle artists to go over it from the point of view of "lines" and to alter a point here and another there. Not a lot of alteration was suggested - it was a question of trying to put finishing touches to something which was already in the "flesh" but when Vincent and Mr. Walker refreshed my memory the other day, Vincent's comment on our discussing the 1930 Show was: "For that Show the machines were considerably smarter and more conventional in appearance." Sales rose to 60 for the year. What helped a little later was a remarkable world tour by J. Gill on a 600 cc side-valve-engined Vincent-HRD, sidecar outfit - remarkable in particular because there was a load of some 12 cwt, yet he came back with the same JAP engine, the same Vincent frame and the same sidecar. Another interesting and important fact was that he came back with a gentleman of the name of Irving in the sidecar - P. E. Irving, who proved to be talented designer.

Vincents took on Irving. They had decided that the unconventional appearance of their machines was against them attaining any great degree of commercial success. This was in 1931. There were the first stirrings of the idea that they should make the bits themselves and produce a real specialist's job. Already they were making riders motor-cycles, because Vincent and others linked with him were riders.

Cleaning up the Machine
At the time Irving arrived on the scene there was an experimental machine on the go. Irving was given the job of cleaning up the machine and making a real design of it. Practically everything had to be new except the engine and gear box. In the

words of the works, it was a remarkable piece of work on Irving's part; he did the whole thing single-handed in well under six weeks, for that was the length of time to the Show, and by the Show the machines had to be made and on the stand.

Three or four days before the Show opened, the parts began to arrive. Vincents worked their record peacetime shift: 74 hours non-stop. At 6 am on the morning of the Show there was the last straw: a racing engine was three-quarters of an inch taller than they had been led to believe! There was only one thing to do, namely, cut a piece out of the base of the tank - that, and have a man on guard over the filler cap throughout the Show. Yes, all the machines were at Olympia in time - all three of them and what makes Irving's work the more creditable is that no feature of his design, barring tank sizes, the fitting of an oil-bath primary chain case, etc, has been altered in the eight years that have since elapsed; the latest models are basically the same as those he designed for the 1931 Show: conventional-looking, diamond-type spring frame, steering-head angle, trail are all the same. The sales would have shown a big increase over the 60 of the previous year, but, unfortunately, the slump came, and the total number sold was about 55.

To be continued next month.

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Branching Out

For 1933 only minor alterations were made. The chief was that four-speed gear boxes, which Vincents were one of the first to fit, doing so as soon as the four-speed Burman box was introduced, were listed as standard. This year sales mounted to about 90; things were beginning to boom! Meanwhile, the little factory was branching out. It had already installed electric drills, a flame cutter for making engine plates and the like, a milling machine, a brazing plant for the frames, and a lathe or two. At the end of 1933 there was a considerable expansion of the machine shop, brought about in part by the decision that they should make their own hubs. From 1936 onwards came the big expansion - the manufacture of nearly everything themselves. Hence that almost amazingly well-equipped machine shop of to-day.

While things were "booming", that is, in 1933, the works were not forgetting the question of new designs. A 250 cc water-cooled, two-stroke was designed, also a similar air-cooled model. The former was marketed in 1934, and in Mr. Walkers view (and that of a number of purchasers) it was one of the best machines Vincent-HRD's have ever produced. The air-cooled model was not put on the market; the factory was too busy. Good as the water-cooled machine was, it did not catch on with the public. However, business for the little factory was excellent. Thanks to the unique "Duo" brakes and the enhanced appearance of the machines following the redesign two years previously, also the growing fame of the firm, sales in 1934 rose to about 120.

The reason for the introduction of the "Duo" braking was that, with the Vincent-HRD steering, road-holding and rear springing, owners were driving too fast! First, the Works laid down what they wanted in the way of characteristics - great braking power, outstanding smoothness, real durability, lightness in operation, and then they set about designing something altogether different from what was on the market. As Mr. Walker remarked in my hearing: "We've never copied anyone, have we? We've even made our wheels round! " Well, the twin or "Duo" brakes were introduced, and a wonderful success they have proved. The design has not been altered one iota. When a year or two back we needed a machine with super brakes for a mighty series of braking tests, it was a Vincent-HRD we chose, because we knew the brakes would stand up and give the efficiency of TT brakes. Another introduction about this time was the sprung pillion seat. A 600 cc water-cooled JAP engined machine was also designed, but the factory was too busy to produce it.

As soon as production of the "Duo" brakes had settled down, the brains of the works cast around for the next development. It was decided to design and manufacture a Vincent-HRD engine. The conditions laid down were that it must have a performance comparable with that of an overhead-camshaft engine, not be too complicated, be robust, and be able to continue giving its high performance. The semi-overhead-camshaft engine resulted. While it may look complicated, the average owner, when he has taken the trouble to understand it, finds it a particularly easy engine on which to work.

In the T.T.

Philip Vincent points out that it is one of the few engines to have lapped Brooklands at over 100 mph on petrol-benzole without super-tuning. His belief is that it is a type that has big latent possibilities - latent because there has not been the time and money to go in for extensive development work. The design was started in May, 1934, and the first production models delivered in February, 1935. By the TT of '35 only about a dozen machines had been supplied with the new engine. Thus, the men who competed in the Senior of that year using the Vincent-HRD engine were using something untried - virtually straight off the drawing board. What was the result? There were never fewer than two of the three men in the first twelve throughout the race. One retired - A. Tyler, who at the end of two laps was lying ninth-and the other two, C. J. Williams and Noel Christmas, finished seventh and ninth, both winning second-class replicas. Williams' average speed with a practically brand-new type of engine was 75.26 mph.

That was an introduction for the new engine, if you like! But perhaps even more impressive, from the spectators' angle, was the way the spring-frame Vincents steered and held the road. With the new engine and the TT showing, the demand for Vincent-HRDs went right up, but in 1935 the works never really got going. ("What could you expect" says Mr Walker, "with the TT coming along and upsetting everything, and sales and production being forgotten! "). All the same, the factory had its record selling year - about 130 machines. By 1936 the engine had had its inevitable little teething troubles eliminated. Sales soared. They went up to about 200, which, with the little factory building engines, frames and almost everything, was pretty well the maximum possible output.

The factory kept getting demands for still faster machines, although the "Comet" was one of the fastest standard production models available. That spring-frame making speed easy . . . However, as people wanted more speed they should have it, but it would not be by tuning the "Comet" to bursting point. Vincents believed in providing an engine big enough to do the required job without being stressed. The "Comet Special" is all right (they said), provided that it gets in the hands of suitable folk and not those who expect a very hot five-hundred single to do both 10 and 100 mph in top. The snag was that the factory had not the facilities for producing an entirely new engine; whatever was produced must have the maximum possible number of parts used in the 500 cc models.

The "Rapide"

The 1,000 cc "Rapide" was decided upon. Except for the crankcase, nearly everything is "five-hundred". A point that troubled the works right from the outset was that if they did not limit the power they would find themselves in trouble with the transmission. The decision was to use "Meteor" parts - the "Meteor" being the touring model of the range-and employ small-choke carburettors. The "Meteor" has only a 6.5 to 1 compression ratio and 1.1/16in choke as against 7.2 to 1 and 1./1/8in for the "Comet". This, it was found later, knocks off a full 7 bhp. Well, the "Rapide" was designed, and the company went to the Show guaranteeing 100 mph. They felt sure they were safe in doing so, but they didn't know for certain, because at the time the Show opened they had not had the opportunity of trying a machine out. Great was the glee on the stand when one day the works tester came along to say that he had done 106 mph in the first 20 miles and on a model that, except for the cylinder barrels being secondhand, was brand, spanking new!

Later they were to find that they could have safely guaranteed 105 right from the outset. P. M. Aitchison's racing successes, incidentally, have nearly all been achieved on the second production model to leave the factory, a machine he bought secondhand from a London dealer.

Working to Capacity

The "Rapide" was designed in 1936 and put on the market in 1937. Not many were sold in '37; people didn't believe the performance figures, and thought a big-twin solo rather too big to handle. At the time war broke out the machine was selling at the rate of about two a week, and Vincents were behind on delivery. Had it not been for the difficulty in getting the transmission to stand up to the power - the transmission needed nursing - the works have no doubt that the machine would have been the most popular they have ever made.

For the last two years up to the outbreak of war the factory was working to capacity - a total of about 24 machines a month-and generally there was a three or four months wait for delivery. Such is the tale to be told of the youth who came along in 1927 saying he was determined to make motor cycles! It has been team work, of course-a remarkable team. Of the managing director and secretary, Mr F. E. Walker, you have learnt little; of Bill Clarke, sales director and in these days Flying Officer Clarke, still less. I will, however, quote a remark Mr Walker made to me: "You could not find in the world a finer pair of boys."

What of the future of new designs of motor cycle? There I cannot help; we must wait and see.