Never heard of the Moreton foundry? It was located in Fairmead Road, well to be precise in my mum's front room!
It was like this, back in late 1960's early 1970's I had a Vincent V twin motorcycle , these bikes were/ are capable of around 125/130mph. (I had mine up to 125mph on the early M6 and it was legal then!) But come the night it was very different, with 6 volt, 45 watt dynamo and a headlamp main beam of 30 watts (not much brighter than a car trafficator bulb) speed was down to 30mph if the weather was good. A member of the Vincent owners club found that the dynamo fitted to the Fiat 500 car was only a little larger than the Vincent Miller dynamo, so off to the scrap yard I went, located two of the required engines and removed the dynamos, the lad in the yard was fond of the queen or so it seemed as he was happy to accept a picture of her on a £5 note.
The dynamo, as it turned out was about ½" bigger in diameter, with the dynamo being mounted on top of the gearbox case there was no way of making it lower, at least on the Vincent engine. I decided on drastic action, I cut a lengthways piece out of the case, this lowered the dynamo the required amount (but caused another problem!) However the drive end of the dynamo was of the wrong shape, this caused a lot of head scratching (now you know why I am bald!) In the end it was decided that a new end was required as the only way out of the problem. What was needed was a piece of alloy, say 5" diameter; a quick look in the scrap bin produced ~nothing. Though I did have a lot of small scrap bits ,and having read that ally was easy to melt, I thought that was the answer, I would make a mould and cast one,------- just like that ,if only!
Mum had an open fire in the front room and I decided this would make a good furnace; the first go using a top from a J size oxygen cylinder to melt the metal in was a flop, not enough heat. For the second go I decided to up the heat but how? A search of the junk (my mum's description) in the shed unearthed an old car heater fan, this I fitted to the ash pan of the fire, powering it with a 12 volt battery. Having got a good fire going I put the "crucible" in the fire and built up around it with coke/coal. Mum looked on while doing her knitting, the cat enjoyed the warmth and the dog lay stretched out by the fire. I started the "blower" and soon had a good fire going, the heat built up, Mum remarked on how warm it was, (Mum used to feel the cold, not that day). The tin box with the sand mould in it was placed in the fireplace, Mum remarks how hot it is. The metal melted, the heat from the fire was such that I had to use my motorcycle gloves to hold the tongs, and I could only stay for a short while near the fire. I removed the crucible and started to pour the metal. The explosion came as a bit of a shock! The cat went over the back of the settee. The dog disappeared under mum's chair, I fell backwards noting as I went, Mum still knitting. Silence. 'The carpets on fire', said mum. Sitting up, I found this to be true, little columns of smoke rose from the carpet. It looked like someone had fired a shotgun at it. Closer inspection showed the holes contained little bits of metal, and being short of the stuff I set about recovering it.
Mum was feeling the heat, so I made a pot of tea. With a cup of tea to hand I thought about the events and came to the conclusion that there must have been a tiny drop of water in the mould, the molten metal turning it to steam. A second attempt a few days later was successful with two castings made. The castings, having been machined up, were fitted to the modified dynamo. It didn't work. - later after a lot of thought I realised I had broken the magnetic circuit by cutting the strip out of the case of the dynamo, problem was if I placed a piece of steel under the dynamo it would make it higher. I made a test rig with a ¼ HP motor and found that a piece of oil can under the dynamo solved the problem.
As an experiment later I tried adding some lead to the alloy to stop it sticking to the lathe tool, did it work-? I am afraid not, just made the metal very, very hard, the lathe tools only lasted a short while before becoming blunt. Today I am still melting metal though very different from that above, I am glad to say! The front room carpet? I bought a large hearth rug to cover my-er-mistake!