

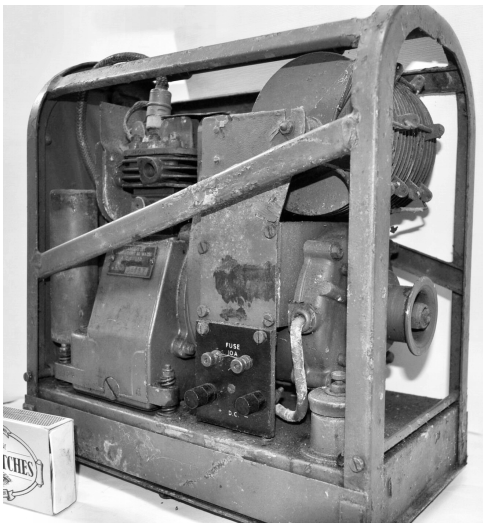
## Featured Engine No. 52

### An Edgar Westbury 80 Watt Charging Set

By Kim Siddorn

Edgar Westbury, working under contract for Stuart Turners, designed an engine in the mid 1930's that was a 15cc, four stroke side valve and intended to drive a small generator. A few of these engines were sold to the public through Stuart Turners and turn up at auction from time to time. They are rare and the prices they fetch reflect this.

As the war approached, the War Department was in a real quandary. In amongst the many, many things we were short of if we were going to fight a major war, were small generating sets. Mostly, they were required for battery charging in Army field work. Stuart Turner adapted EW's 15cc engine in short order and arranged it to drive both a magneto and an alternator at either end of the crankshaft. It was neat little 80 watt 12 volt units which the War Department snapped up, giving contracts to Douglas Motors, Enfields, Stuart Turners and EEC - probably Electrical Equipment Co, though some believe it to be Economic Electric Co.



They were ground breaking units at the time as it was rare indeed to set out to design a small capacity (35cc) high revving (3,500 RPM) four stroke, side valve, all aluminium engine in an age of heavy, slow revving motors.

They gave very little trouble in their day and were especially valued for ease of starting and spikeless power output as the ignition was entirely divorced from the generator output.

They have had an excellent survival rate – probably because they are neat and small, don't have sticky out bits like exhausts (it comes separately and screws into the exhaust port) and are often carried by enthusiasts to events in case their bigger & more exciting engine refuses to run!

Quite often, they have no spark and I suspect that they get put away until a "round tuit" turns up! The illustrated one had a depressing lack of ignition electricrky. For a War Department job, it is very nicely made and the tiny plug hides inside a fully shielded lead that runs in armour plated

magnificence back to the black plastic ignition generator cover. It is a pretty major excavation to get at the points as the carrying frame, the carb, the heat shields and the plug lead all needing to be removed before it is possible to take off the generator cover. After that, it was plain sailing. The points are opened by a rising pin a'la Briggs & Stratton and I suspected the pin of being seized or stiff, but it was OK. The points were clagged with storage oil though, but that soon gave way when faced off with 600 grit W&D paper and a blob of spit!

Re-assembly completed and a drop of petrol dribbled onto the air filter element to give the direct lift carb a head start resulted in a splutter - then it picked up and ran. Without a battery attached, the alternator puts out 38 volts. Connecting it to a 12 volt battery induces the nominal voltage to rise from 14 to 17 volts, the revs drop perceptibly and it runs more steadily.

They are still not expensive & running, charging examples are not hard to find. However, it is easy to forget that the latest ones must be sixty years old, two generations of men have passed and their stories are usually lost in time.

So it was with real pleasure that I came by this example, passed on to me for not a lot by Dudley Simons. It has stood at the back of his workshop for perhaps thirty years and before that lived undisturbed at Cambridge University for a decade. However, it is likely that the generator has been to Greenland and back several times and was almost certainly part of the Cambridge Arctic Shelf Programme (CASP) in which the eminent geologist Brian Harland (1917 – 2003) was a leading figure. A surviving member of the 1966 research party confirms that Brian purchased all kinds of war department equipment to take into the field.

He did important early work on the theory of Continental Drift and made the first observations of glaciation on a global scale that led to the Snowball Earth hypothesis. Brian was quite a man and did 43 seasons - leading 29 expeditions - of annual polar field trips, the last being in the 1980's when Brian was in his mid sixties. He geologically mapped the Polar archipelago of Spitsbergen and the ice field "Harlandisen" on the main island of Svalbard is named in his honour.

Anecdotes abound about Brian Harland and we'll close with just one. One weekend Brian's house in Cambridge was raided and searched by the firearms bods from Cambridgeshire police wanting to know why he had a high powered rifle in his possession and why he hadn't renewed his licence and being unable to find the rifle in his house - where was the rifle now?

He was invited to join them down at the station for a bit of a chat. Brian told them he used the rifle for scaring away and if necessary for shooting polar bears and it had been left in a shed in Spitzbergen - it took some hours in the cells to convince them he wasn't extracting the urine!

## Calendar of Events

Key. CN = Club Night. CU = Crankup

**June 1<sup>st</sup>** Wed. **CU**. D-Day Cranmore station Yard. Bring something military if you can.

**June 18/19<sup>th</sup>** Wessex Midsummer Vintage Gathering. Our **club rally** at Semington

**June 25/26<sup>th</sup>**. **Event**. 27<sup>th</sup> **1000 Engine Rally**, Astle Park.

**June 25/26<sup>th</sup>**. **Event**. Please bring an engine **Cranmore Railway Station**. An in steam day at this popular venue.

**June 27<sup>th</sup>**. **CN**. Richard Harris. "Restoring a Bedford TK."

**July 22-24<sup>th</sup>**. **Event**. **Netley Marsh Rally** at Meadowmead Farm, Netley Marsh, SO40 7GY contact Jean White on 023 8086 0313.

**July 25<sup>th</sup>** **CN**. Crankup at The Court Hotel

**July 31<sup>st</sup>** Sunday. **Event**. Mini rally at **Haynes Museum**, Sparkford mini - rally Haynes motor museum.

**July 29-31<sup>st</sup>** **Event**. **The 47<sup>th</sup> Welland Steam Rally**, Woodside Farm WR13 6NG Phone 01531 890 762 for an entry form.

**August 22<sup>nd</sup>** **CN**. *Early because of bank holiday*. **Photo presentation** by the members. Bring along ten photo's or slides. Prize for best effort.

**Sept 3<sup>rd</sup>**. **Event**. **Carnival Country Fair**, Trowbridge Park, St Stephen's Place, Trowbridge, BA14 8AH, Phone 01225 754374

**Sept 10/11<sup>th</sup>**. **Event**. Stockbridge Working Weekend. *Please phone Alan Vickery for details 01256 703169*

**Sept 18<sup>th</sup>** Sunday. **Club Visit**. Coach trip to Kew Bridge Steam Museum.

**Sept 26<sup>th</sup>** **CN**. Kim Siddom. "Engines at the 1000 Engine Rally"

**Oct 8<sup>th</sup>**. Sat. **Skittle match**. South Parade Club, Frome.

**Oct 15<sup>th</sup>**. Sat. **Autumn sortout** at Cranmore Station Yard.

**Oct 31<sup>st</sup>** **CN**. Selwood preservation club. **Inter club quiz**.

**Nov 12<sup>th</sup>** Saturday. **Autumn Enstone Sale**.

**Nov 28<sup>th</sup>**. **CN** Guest speaker Patrick Hassell. "Bristol Before Rolls-Royce"

**Dec 4<sup>th</sup>** Sunday. Antifreeze **CU** at Nunney Catch.

December **no club night**.

**Dec 27<sup>th</sup>**. Mince Pie **CU** at The Court Hotel

*All events are listed in good faith. You should always ascertain if an event is taking place before you go. If in doubt, ring Brian Baker on 01749 342671*

### Social news

By Earwig

Welcome to new members Mr J Haskins Bristol, Mr Shane McCrae Bristol Mr & Mrs D Hall. Southampton, Mr & Mrs M Hall Southampton, Mr Neill Richards Trowbridge. Mr & Mrs Bob Taylor, Oliver & Lucy, Bridgwater, Mr Ashley Humphries Wincanton and Mr M.C.Hole has rejoined.

### Chairman's report (printed as received)

By Brian Baker

The monthly meeting at the Court Hotel on April 18<sup>th</sup> had Mike Horler (of heavy horse fame) entertain us with a talk entitled "Michael the country boy". This was a very entertaining talk, illustrated with slides of Michael's childhood during the war years and beyond. It appears he had a very happy upbringing despite the primitive and austere times, no water, electricity or toilets in the house, I could relate to this as this was exactly as it was for me also in the war years. The numerous slides that were shown of the area he lived illustrated the primitive conditions that

prevailed in the thirties and forties. Michael is a brilliant orator and he entertained the members present for well over an hour without notes or without pausing. This was a very slick presentation, very interesting and informative. I am sure we haven't seen the last of Michael as I hope to get him back next year for yet another talk. The preparations for the Rally in June are progressing very well with entries in exhibits and attractions well up on previous shows. All we want now is the good weather that has favoured the previous two years to justify the hard work put in by Eric and his team in organising it. The committee puts in a lot of time and effort organising events etc for the club members and quite often this effort isn't rewarded with the expected support. The coach trip to Kew Steam Pumping Station is a classical example. Despite adverts in the newsletter so far only six members have shown any interest and booked a seat. If no more interest is forthcoming I will have on alternative but to cancel this trip making the work the committee put into organising it a waste of time. I hope all of you read Patrick Knights editorial in this months Stationary Engine Magazine, when I read it I thought he was talking about our club, then I realised that other clubs and organisations have the same problems as us, namely no one willing to run them. A club has had to disband and give their money to charity as they could not get enough members to serve on the committee, does this ring a bell with you? **We Are Still Without A Secretary and a full complement of committee members**. I would like to add that Patrick Knight is a member of this club, so he gets first hand information from our newsletter of the dilemma we face. The owners of the café at Nunney catch have informed us that they didn't do very well at our spring crank-up, I know that times are a bit hard with the high price of fuel etc but these businesses rely on our support, we cannot afford to lose venues such as Nunney, so perhaps next time an extra cup of coffee or a bacon sandwich might make the difference. The same applies to the Court Hotel, I know the drinks are a bit dearer than a pub but it is a hotel, I can only ask you to patronise the bar as we will never find another venue as convenient as the Court or a landlady as sympathetic to our needs as Sue. **DON'T FORGET TO RING ME TO BOOK YOUR SEATS FOR THE KEW TRIP.**

### They Don't -Make Them Like That Any More

by Mike Harper

Not so much an engine, more a way of life! Word reached me the other day on the Ionian branch of the international grape vine, (we are wintering) at Nidn on the island of Levka), that the current owner of our old Zulu fishing boat 'Rolling Wave' was about to replace her old Kelvin engine.

Such a sacrilegious act has prompted me to write to him, and it occurred to me that my memories might provide food forethought, or at least some reading material for the heads.

The problem I imagine with Kelvin K2, No. 19194, or the Monster as he was better known, is that the new owner finds him difficult to start. Not surprising, as to get him throbbing into life involves following a routine almost as complicated as the cockpit drill necessary to get a jet airliner into the air.

One must understand the principles on which he operates, plus making a real effort to get into his mind, for 19194 has a personality of his own. He will invariably misbehave if a female should invade his lair, known to most as the engine room.

The problem in getting one of these old Kelvins to start is that they must be hand started, and before you can attempt this you have to do a little oiling of the vital parts, engage the impulse magneto and make sure of the petrol supply. What is that you cry, Kelvins in old fishing boats are Diesel engines, why are you burbling on about petrol and magnetos. This is why you have to understand exactly how they operate and then you will appreciate the technique for getting them started. Once running, as long as there is fuel in the tank you can guarantee that; a Kelvin will run for ever.

The usual generic term for engines of this type is "Old Thumpers" because they run at an incredibly low number of revs, about 100 rpm on tickover and maybe a reckless 750 rpm flat out. To achieve this they are massively built, and it is the combination of hefty bearings and low revs which gives them their longevity. The penalty is that such engines are very heavy with a laughable power to weight ratio, and are also very Large. They were ideal for the fishing boats of the time for which they were designed and also were very successful in powering barges, small tugs, pilot boats and the like, where reliability was the most important factor.

The K series included a one lugger, a two lugger, a three cylinder job said to be the smoothest runner, a four cylinder, and a six, all using identical parts. Each pot was separate, so that pistons, conn rods, heads, cylinder barrels, liners, valves, were all interchangeable between each model, and the essential difference was that the length of the crankcase was increased to cope with more cylinders and the crankshaft, and cam shaft, exhaust manifold were all made longer as required.

There were obvious advantages for a fleet owner in this, especially if different boats had different sized engines, as so many parts were common, simplifying the spares stock problem and reducing the inventory. Kelvins also run with cylinders out of action, and on one occasion 19194 brought us safely home from Bologne and up the Thames to Shepperton, on one cylinder only, when a head gasket blew.

However I digress from my main point, which is how to start them. The first essential, (with 19194 anyway) is to put him in a good mood with a cheery greeting. "Good morning monster" always goes down well. Make sure he is not in gear.

1. Now for the big moment - grasp the starting handle firmly, engage it and pull sharply over compression. Be not afraid. If the timing is right he cannot kick back. If he did he would possibly break your wrist, so that the first time you go through the routine after a maintenance job that required retiming is always an interesting event!
2. If you have made sure that the oil has circulated, it is not so hard to pull him over compression, providing you make a determined stab at it, and at the critical moment when you are just reaching top dead centre on a firing stroke (with a two cylinder four stroke engine you get two successive non firing strokes, before you get a firing stroke and then exhaust on the next revolution), a kind of loving nudge will take him over TDC.
3. Then there will be a sort of squashy bang when the spark generated by the magneto explodes the petrol you squirted into the petrol combustion chambers.
4. This bang will be followed by another bang from the next cylinder, and then a series of bangs settling down into a steady rhythm as he draws petrol from the carb and sucks in air so that he is running happily on petrol.
5. The explosions in the petrol combustion chambers pass down through the valves, (opened when you pulled back the decompression lever), into the Diesel combustion chambers below, and shoves the pistons down. As long as there is petrol in the carb this will continue.
6. See later for what to do if he just sighs over compression and does not fire. Maybe if he didn't fire it was because you tackled the pulling over part hesitantly and with a lack of courage, to which he will respond by baulking. so it is worth one more go. If that does not work, waste no more you are flogging a dead horse!
7. Assuming success, let him run on petrol for 20 or so seconds, then close the drains on the injectors so that the Diesel fuel is no longer all draining back to the governor, whence it finds its way into the fuel system, but instead squirts into the cylinders.
8. When he is banging happily away, and sounds eager, push the decompression lever well forwards quickly. This close off the petrol combustion chambers, bumps up the compression in the Diesel combustion chambers to a pressure which will ignite the Diesel fuel, and lo and behold, there will be an almighty bang sounding exactly as if some one is trying to escape from inside the engine with a sledge hammer, followed by a hesitant lurch over the next stroke or so, then a more disciplined bang, then a series, until he settles down into a nice steady plonking rhythm.

**More next month!**

9. When this point is reached, which should only be a matter of seconds, ease back the governor gradually until he is ticking over at about 110 rpm. This speed can be checked by counting the strokes that the water pump makes.
  
10. There is more to do before you take a rest. Screw out the impulse magneto, as if you don't it can be damaged.
  
11. Replace the earth lead onto its terminal.
  
12. Open the little drain cock on the side of the crank case just above the magneto. A slow steady drip-drip of oil indicates that the oil pump is satisfactorily distributing oil round the galleries. If there is no oil from this tap, stop the engine, as otherwise you can damage him.