

Hiram Maxim and Edward Butler

Two local inventors.

Hiram Maxim

Born in Maine, USA, 5 February 1840, of French Huguenot descent, Hiram Stevens Maxim spent his early childhood in the town of Sangerville.

He was "a poor little bareheaded, bare-footed boy with a pair of drill trousers, frayed out at the bottom, open at the knees, with a patch on the bottom, running wild but very expert at catching fish." He led a rough, self-reliant life and became a master of many trades.

Young Maxim was first apprenticed to a carriage maker at the age of 14 and made astronomical instruments in his spare time, as well as supporting himself by working as a part-time barman. Much of his early working life was spent in engineering firms where the foundation of his skills were laid and by 1873 he had become the senior partner in a company building gas and steam engines in New York.

Maxim was an eccentric and boisterous individual with a tremendous capacity for hard work. He also had a mischievous sense of humour. When his young son longed to own the dog belonging to the owner of a nearby drug store, he was promised he could have the dog only if he paid for it with a double-headed penny. Hiram Junior insisted his family search their loose change for this imaginary penny. However the next day Sir Hiram went to his works, took two pennies, sliced them in half and soldered them together and carefully burred the edges, so that he had a penny of the right weight and feel but with two heads. The store owner was shocked and puzzled but still refused to hand over the dog. Hiram Senior had achieved what he wanted. To cause bewilderment and amuse himself.

Maxim's early experiments included an automatic mousetrap, which reset itself for the next mouse and an automatic sprinkler system that not only extinguished the blaze but also alerted the police and the fire brigade.

Maxim was a major figure in the research to produce a practical incandescent lamp, the race only just won by Thomas Edison in 1879. His first patent concerned with electricity was in 1878 and he joined the first Electric Lighting Company ever formed in the United States. He became their Chief Engineer and as their representative he went to Europe for the Paris Electrical Exposition in 1881, displaying his machine for regulating the pressure of an electrical system. For this he was awarded the "Chevalier de la Legion d'Honneur".

After Maxim's success in Paris he moved to London in 1881 to look after the interests of Maxim-Weston Company. It was here that he designed the famous machine gun that bears his name and he claimed to be the first man in the world to make an automatic gun. The first machine gun designed by Maxim in London fired bullets 666 times per minute, by energy derived from the recoil. This was later followed by the Pom Pom, a larger gun firing 400 shots a minute.

Maxim approached the steel company Vickers to manufacture his gun and in 1884 the Maxim Gun Company Limited was formed with Albert Vickers as Chairman and production was started at their works in Crayford. Maxim's social success was almost as rapid as the gun's consumption and he gave many demonstrations to Royalty, Dukes, Lords and Army personnel. It might be thought that with patronage of this sort the product would take off but ultimately the government purchased very few machines and Maxim was obliged to travel overseas to promote and sell his products.

To avoid the substantial costs of using live ammunition in these demonstrations, when he gave a demonstration in the Public Hall, in Bexleyheath, Maxim used corks instead of bullets. In 1888 Maxim bought shares in the steel firm of Vickers, Sons and Company and amalgamated his company with the Nordenfeldt Gun and Ammunition Company to become the Maxim, Nordenfeldt Guns and Ammunition Company.

This now gave Maxim a site in Erith as well as Crayford. The public house "The Nordenfeldt", now closed, in Erith road, was known locally as "The Pom Pom", a nickname that was originally given to Maxim's machine gun by African natives.

Maxim moved from Stoneyhurst, Crayford to Baldwyns Park in 1889, where he conducted the aeronautical experiments for which he is

famous. He gave demonstrations to many famous people including King Edward VII, then Prince of Wales.

Maxim's interest in flight began at an early age when he designed a helicopter in 1872. He constructed his first aeroplane in 1892 and trials were held along railway tracks at Baldwyns Park. This aircraft weighed two tons and was 105 feet wide with 17 foot long propellers and successfully lifted itself off the track before it crashed safely to the ground. This was said to be the first time in aviation history that a flying machine actually lifted itself and a man into the air. He had no intention of attempting any free sustained flight but he had proved it was possible.

After this a company was formed to develop the "Maxim Captive Flying Machine", which was in fact a glorified roundabout, passengers being carried through the air in boats attached to a central rotating standard. This was a popular attraction at Earls Court, Blackpool and Crystal Palace about 1904.

Maxim became a naturalised British subject in 1900 and shortly after he was knighted by Queen Victoria. Maxim continued inventing many other items including explosives, gas machines, engine governors and even a medical inhaler to relieve bronchitis and other chest conditions.

Maxim retired in 1911 and moved to Sydenham where he died in 1916. He was an extraordinary character who wrote "friends have told me that I have ruined my reputation by inventing a medical inhaler... I suppose I shall have to stand the disgrace which is said to wipe out all credit that I might have had for inventing killing machines..."

Extract from Bexley Heath and Erith Observer, 13 August 1897

"Use of flying machines"

In the course of an interview in the current number of the Church Family Newspaper, Mr Hiram S Maxim is reported as asserting that he had invented an aerial apparatus that lifted itself by its own energy and without the use of a gas bag. He could not, however, claim that he had been able to carry his researches very far in that direction. In reply to a question on the practical purposes to which a flying machine might be put, Mr Maxim replied:

"It would be useful in warfare rather than as a means of public

conveyance. The velocity would be about fifty or sixty miles an hour; say, twice the velocity of a sparrow. It seems not impossible to construct a machine that could be made to cross the channel at almost any point and convey explosives into a town. The flying machine of the future for war purposes will weigh about two tons, and it could be made to travel 100 miles without the use of fuel. But it would hardly be practicable to employ flying machines in a thickly settled country for carrying passengers about."

Edward Butler

Edward Butler, the son of a Devonshire farmer, was apprenticed when 17 to the firm of Brown and Mays Ironworks in Devizes. A year later he moved to London and spent the next three years working for a general engineering company while he worked on ideas for a tri-car with a petrol engine. In 1884 he took out a provisional patent on this invention which specified:

"A petroleum motor tricycle or small automobile carriage since it is not provided with auxiliary pedalling gear and was fitted with a comfortable seat and footboard"

All this a year before Gottlieb Daimler patented his two-wheeled motor cycle and when Butler was still only 21 years old. Butler's motor-tricycle, called the Velocycle, was announced in 1884 and by 1887 a syndicate was formed to exploit the machine. Butler then applied for another provisional patent for an improved tri-car to be called the Petro-cycle. This was made by Merryweather of Greenwich, (well known for their fire engines) and in June 1888 the one and only petro-cycle was tested at the Invicta Works, Bromley-By-Bow in East London.

The machine needed further modification and so Butler replaced the ignition system and invented a spray type of carburettor called the Inspirator. The petrocycle ran well; too well for the limits of the 4mph Locomotive Act and Butler again modified it to lower its running speed. When the 'Man and Red Flag Act' was repealed in 1896 Butler and his wife (Erith's first lady motorist) drove the petrocycle at 12mph on the private roads inside Cory's at Erith. Mrs Butler drove with Edward running alongside shouting instructions.

Butler's hopes of commercial development were dashed by lack of financial backing and by what may have been Erith's first motor accident. "On the second occasion, a week or so later, I startled a baker's horse, which incident closed my careering about the road outside Shuttleworth's Shipyard". Shortly afterwards the petrocycle was taken to Coventry and scrapped for the 163 lbs of metal it contained.

Butler died in 1940, aged 77, a bitterly disappointed man whose work was unrewarded and, until the discovery of many of his manuscript notes and diaries in 1951, he was largely unknown even to early motorcycle enthusiasts.