Who made the first aluminium fishing reel?

Aluminium is the most common metal in the earth's crust at 8%.
It is never found in its pure metallic state but as complex alumino-silicates which are difficult to split into their component parts.
In Lavoisier's *Elementary Treatise of Chemistry*, 1789, he lists 'Argilla' (aluminium oxide) and theorises that aluminium is a metal, although the technology did not exist to separate it from its oxide.

In 1825 Hans Christian Oersted produced tiny amounts of the metal by heating aluminium chloride with potassium amalgam. By 1827 Friedrich Wöhler had developed Qersted's method but the output was still minimal. French chemist Henri Étienne Sainte-Claire Deville devised a method in 1854, using sodium, to produce larger quantities. This method involved the use of large amounts of sodium and it was still proving very expensive to produce relatively small amounts.

At the Exposition Universelle, Paris, 1855 ingots of aluminium were on display and created a huge amount of interest with many spotting the potential of this incredibly light, shiny, metal.

Napolean lll was very keen on seeing it developed further, in particular for military use, and offered Deville virtually unlimited funds. Despite this, aluminium remained extremely expensive to produce and not yet viable for armour, weapons or other, non military, applications.

In the middle of the 19th century aluminium was said to be price comparable with gold, some claim it was even more expensive. Parisians wore it as jewellery. Napoleon had a set of aluminium plates for the use of his favoured guests, lesser guests dined off gold and silver.

In 1884 aluminium was used for the apex of the Washington Monument based on a quote of $75, (the actual cost was in excess of $200.) *"Weighing in at 100 ounces and standing nine inches tall, it was the largest piece of cast aluminium that had ever been created at the time. It sat for two days in the window of Tiffany's in New York City, displayed like a precious jewel. Later put on public display on the floor, visitors were allowed to carefully step over so they could tell their friends that they had walked "clear over the top of the Washington Monument.""*

This was made by William Frishmuth at his Frishmuth Foundry in Philadelphia, believed to be the only aluminium foundry in the US at the time.

Dr David Harris in his article, 'The Worlds Oldest Aluminium Casting' claims that the first ever aluminium casting (a statue of Diane de Gabies, by Paul Morin) was produced between 1858 & 60. The statue of Eros in London's Piccadilly, by the sculptor R. A. Gilbert was cast and erected in June 1893 using aluminium produced by the sodium process

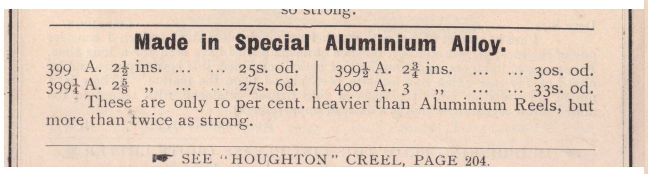
Between 1889 and 1892 the method of production of aluminium changed from the sodium process to the electrolyte method. The discovery by Karl Bayer that aluminium oxide could be made from bauxite furthered the cause. In the UK this resulted in the price falling from "half a guinea a pound" (10 shillings and 6 pence) in 1889 to 2 shillings a pound by 1892, - "comparable bulk for bulk with the cost of copper" to quote a contemporary UK

newspaper.
In the US of A, the cost was £2-10-0 a pound in 1886, when the countries total production did not exceed 3000 lbs (most of which was used in steel production). By 1897 the metal could be obtained for 1 shilling 4.5 pence per pound, with US production being around 4,000,000 lbs weight.
By 1900 aluminium was still twice the price of copper per pound, but it is less than one third the density.

During the last decades of the 19th century, the huge demand for copper to service the expansion of both electrical and telephone distribution systems saw copper prices rise rapidly. This continued in the US until the Government introduced price limits during WW1.

Anyone producing fishing reels during this period would have been aware of most of the above. Brass reel makers would watch as their raw material was becoming harder to source and increasingly more expensive, and simultaneously the price (and quality) of aluminium more viable; not to mention the weight consideration.

We know that Hardy Brothers of Alnwick, the famed fishing tackle makers, were experimenting with what they called their "Hercules metal" in the late 1880's. (I should note here that some of these were made for Hardy by David Slater, Reuben Heaton and P D Malloch) This is basically an "aluminium bronze" and, to quote an early Hardy catalogue, contains "three to twelve per cent aluminium"
Shown in Hardy catalogues from 1894 to 1903 the Special Aluminium Alloy Hercules, (these are extremely rare animals, along the even rarer Birmingham shown in John Drewett's book) could qualify as the first production Aluminium reels (depending on what percentage of Al. is in the alloy, and is deemed to fulfil the description.)

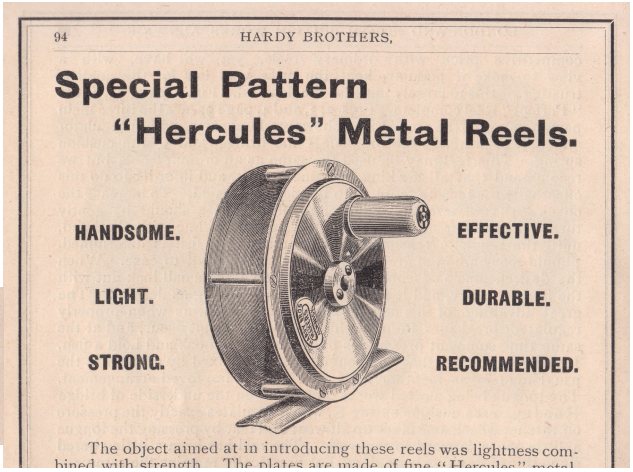

so strong.

Made in Special Aluminium Alloy.

399 A. 2½ ins. ... ... 25s. od. | 399½ A. 2¾ ins. ... ... 30s. od.
399¼ A. 2⅝ ,, ... 27s. 6d. | 400 A. 3 ,, ... 33s. od.

These are only 10 per cent. heavier than Aluminium Reels, but more than twice as strong.

☛ SEE "HOUGHTON" CREEL, PAGE 204.


94 HARDY BROTHERS,

Special Pattern "Hercules" Metal Reels.

HANDSOME. EFFECTIVE.
LIGHT. DURABLE.
STRONG. RECOMMENDED.

The object aimed at in introducing these reels was lightness combined with strength. The plates are made of fine "Hercules" metal

Some UK reel makers obviously saw a future for the metal. It was recorded in the Birmingham Daily Post in April 1893 that Mr Reuben Heaton had filed a patent for "Aluminium Solder" as early as 1892.

Jess Miller, in his Dunkeld Collection book, describes the Combined Fly/Spinning reel thus: "It was certainly one of Hardy's earliest alloy reels and was made between 1894 and 1898."

On the other side of the Atlantic, in a similar vein, various makers were also experimenting with this new metal which, to quote an 1892 English newspaper "greater uses would be found than any that had yet been discovered".

My answer to the original question is that I don't know who made the first aluminium fishing reel. In part, this answer depends on how we define aluminium in this context, ie what proportion of pure aluminium in the alloy used in the casting?
It is not impossible that, in the manner of Napoleon's plates or one of the mid 19th century solid silver reels, someone made an early, and expensive, toy reel.

It is a fair assumption that the first commercial aluminium reel was produced

in the early 1890s. Now all we have to do is prove which reel and who made it.

Brian Taylor is a writer and vintage tackle collector. He lives in the UK and is constantly researching dusty corners of the interweb and friend's basements in the hopes of finding that left handed Barton multiplier ... or?
Contact - churchillsporting@gmail.com