

## Waterloo Teeth – By Simon Wilson

The history of dentistry goes back a long way. There is evidence of dentistry in India 9,000 years ago. The Chinese go back at least 6,000 years and the Egyptians 4,600 years. The Chinese tried replacing missing teeth with bamboo implants 4,000 years ago, but it seems to be the Egyptians who made the first dentures around 3,500 years ago.

These early dentures were human teeth strung on gold wires and were developed for cosmetic purposes rather than chewing. They may even have been fitted after death by the people preparing the mummy, rather than being used by living people. The Etruscans, flourished in Italy before the Romans and are often cited as being the originators of practical dentures. They made replacement teeth from gold, quickly moving on to dentures made from human and animal teeth mounted in gold bands. These seem to have been both cosmetic and functional, and allowed the user to chew.

The Romans, introduced the use of narcotics to reduce pain. They seem to have used a wide range of materials for dentures, including other teeth, bone, ivory and wood. This represented an early high point for dentistry as the Middle Ages in Europe reverted to crude dentures carved from solid blocks of ivory or bone, backed up by a variety of herbal cures, charms and amulets. One cure for toothache recommended kissing a donkey. Then, with the arrival of sugar, dental health took a turn for the worse. Elizabeth I is a prime example, with her famously blackened stumps.

Dentistry as we know it really began in the eighteenth century. Dentures became commoner, new materials were tried, and everybody thought they could be a dentist – jewellers, ivory turners, cabinet makers and blacksmiths all developed dental sidelines. One 19<sup>th</sup> century Italian monk is reputed to have extracted 185 teeth a day – a total of 2,000,000 in his career.



Cased set of dentures  
including human teeth

John Greenwood, an apprentice cabinet maker turned soldier and privateer set up as a dentist at this time. He was George Washington's favourite dentist and supplied him with four sets of dentures in his lifetime. Greenwood invented the foot operated drill and was one of the pioneers of using wax impressions when making dentures.

Dentures were made from a variety of materials, including wood, ivory, bone or porcelain,. Apart from porcelain, they all rotted, because they had no enamel to protect them, and people who had paid good money to replace rotting teeth often found the replacements were just as bad. Porcelain was slightly better, as it stayed white and didn't rot. However, it did crack, crumble and click when chewing. They were developed by a number of different dentists, one of whom was inspired by the terrible smell of his decaying ivory dentures. They would be developed over following decades and though other materials appeared porcelain, in its final form, became a popular choice and remains in use to this day.



Sets of front teeth displayed for sale to dentists

Human teeth were more durable, though they still rotted eventually. Many of them came from unhealthy mouths to start with - executed criminals, looted corpses (grave robbers sometimes took just the teeth rather than the entire body, as it was easier and just as profitable), or simply from poor people selling their teeth.

There is an entry in the account books of George Washington in 1784 - "*By Cash pd Negroes for 9 Teeth on Acct of Dr. Lemoire*" They say that success is where opportunity and preparation meet. By the 1800s, the

dental industry was prepared. They had dentists, they had good designs for dentures and they had people who were prepared to pay. That was important, as these were expensive things.

In 1781 a dentist in London was asking half a Guinea (10/d) to fit an ivory tooth and two Guineas (£2 2s) for 'fitting and fixing a human tooth'. A full row of human teeth cost thirty Guineas (£31 10s) and a complete set was £73

It is always difficult to calculate the real value of money in history, but an unskilled labourer in 1781 was paid about £22 a year, if you calculate this against today's National Minimum Wage (approximately £25,000 pa) the dentures would cost you £83,000. You can see why dentistry was a popular profession.

All they needed was opportunity, represented by a reliable supply of good quality human teeth, which is where Tommy Atkins and his mates come into the picture.



Hougoumont by R. Gibb

John Greenwood had started importing teeth into America from Napoleonic battlefields as early as 1805, though the first battle that is mentioned as providing large numbers of teeth for dentistry is Leipzig in 1813. It was a decisive defeat for Napoleon and the biggest battle to be fought prior to the 20<sup>th</sup> century. Scavengers descended on the battlefield and one of the things they were seeking were human teeth. Soldiers were, on average, young and healthy, and their teeth were ideal for making dentures. As you will see from pictures of 19<sup>th</sup> century dentures, only the front teeth were used and the molars were still carved from other

substances. This was a case of practicality – it was far easier to extract the front teeth, and as many people wanted dentures for cosmetic reasons it was the front ones that needed to look good.

Waterloo came just two years later, and provided not only a tooth bonanza, but a marketing opportunity. The battle was seen as an heroic ending to the war with the French and bringing peace after 23 years. The British Government issued a medal to all the British forces that had fought there, generally accepted as the first British campaign medal. In addition, the survivors were awarded two years extra service towards their pension.



Duke of Wellington's teeth displayed at Apsley House. Gold and ivory. He did not have Waterloo Teeth.

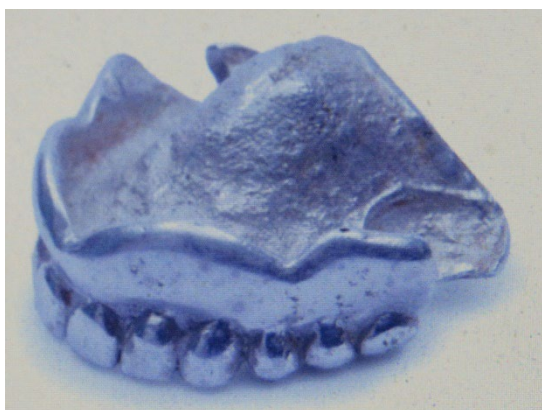
At home, monuments were built, streets were named after the battle, poetry was written. The day was celebrated into the 1850s with bells being rung and veterans being treated to meals and drinks. Wellington died in 1852 and two years later we found ourselves in an alliance with the French in the Crimea, which seemed to bring the annual commemoration to a natural end. There were plans for a centenary celebration like the 1905 Trafalgar event, but by 1915 we were otherwise engaged and the event went the same way as the 1916 Berlin Olympics.

In the middle of the initial rejoicing, Waterloo Teeth appeared. It was a marketing master-stroke. Suddenly, the general run of nondescript teeth was transformed into Waterloo Teeth. You could smile into your shaving mirror and the teeth of heroes would smile back. Other

battlefields were exploited too, as the Americans began to import barrels of teeth. The Crimean War provided more raw material and eventually the American Civil War released so many teeth onto the market that the USA became an exporter of teeth and the world price fell.

Queen Victoria, in case you were wondering, had teeth carved from hippopotamus ivory with gold springs. She was very self-conscious about this and used to hold her handkerchief in front of her mouth when laughing. This became part of Victorian etiquette for ladies.

In the 1850s "Vulcanite" dentures started to appear, a rubber base with teeth attached by metal pins. They were cheaper but even they eventually began to smell after a while as bacteria colonised the rubber.



Aluminium dentures, top set

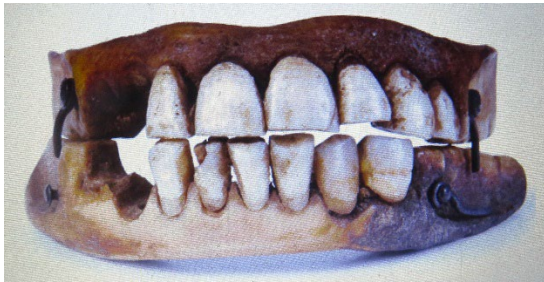
To be considered fit for combat American recruits had to have six pairs of functioning teeth, either natural or artificial. In the 1860s the American Army developed a technique for casting aluminium dentures, which enabled them to keep soldiers in the firing line. I have seen a set of WW1 British papers where the soldier was sent home after he lost several teeth in France and could no longer cope with eating army biscuits, so it was clearly a problem shared by all armies. The aluminium dentures were used until the Great War but were not popular. By that time they were known as Amex teeth as they were used by the American Expeditionary Force.

Other early plastics, like Bakelite and Celluloid, were used but they all proved unsatisfactory in one way or another until the discovery of acrylic resins after WW2.

Finally, mention of WW2 provides a link to Churchill. He had four identical sets of teeth during the war, each specially made, with a gap to preserve his characteristic whistle when speaking. The speeches



were important to his leadership style, and he had the four sets to ensure continuity in case of breakage or enemy action. His dentist, Wilfred Fish, was considered so important to maintaining Churchill's image that he was classified as "essential" to the war effort.



Waterloo Teeth, solid molars, springs missing.



Waterloo Teeth with springs – showing solid ivory/bone molars and human front teeth