



A one horsepower mower in 1923

Roland Taylor looks back at a piece of machinery which is a vital part of every greenkeeper's working life.

The year was 1828 and an event was about to take place that would dramatically change all sports played on grass, especially golf. Until this time, keeping turf short enough to play on was often down to the rabbit population and courses such as St Andrews relied on them to keep the courses grazed. Documents dating back to the mid 17th century reveal that the city council allowed the Archbishop to keep rabbits on part of the links. This may have seemed a good idea at the time, but the golfers clearly found the scraps and burrows created by the rabbit population were a problem. When the next applicant applied for grazing rights 70 years later there was a clause in the agreement that stated the links were not to be spoilt where golf was played. How they expected the owner of the rabbits to keep them under control is not explained.

By the turn of the century the course was one large rabbit warren and players were naturally very unhappy. Eventually the problem was resolved, but not before the case was finally taken to the House of Lords.

Sheep were also used in the early 1900s one greenkeeper said that his first job was keeping fairways mown with horse drawn mower and a flock of 300 of ewes.

In the Gloucestershire town of Stroud the Industrial Revolution was at its height and the local mills were busy turning out cloth for the British Army. Cost effective methods of production were constantly being sought and one process, shearing the nap of cloth, was very time consuming and required considerable skill.

One man went to mow: 160 years ago

Edwin Beard Budding was a 35 year-old, carpenter, engineer and inventor. One of his jobs was to install a mechanical nap trimmer at a local mill. This machine consisted of a series of blades that rotated against a static blade. Why he should relate this to mowing grass is conjecture. Maybe the mill owner had asked him to look for an alternative away of keeping his lawns mown. Whatever the stimulus, Budding set to work and came up with a system that has stood the test of time and still remains the basic principle of all modern cylinder mowers.

Like most inventors, Budding had to find someone interested in manufacturing and what is more important put up the money for

his new invention. John Farrabee who owned the Phoenix Foundry at Thrupp Mill, near Brinscombe had the ideal set-up and financial backing. The two men formed a partnership in August of 1830 and a British patent for the world's first lawnmower was granted to them on October 5 of that year. The Budding Farrabee company manufactured over 5000 units in the period until 1863 when it ceased production. Farrabee saw the benefit of issuing manufacturing licences to other companies and one of these was J R & A Ransomes of Ipswich, who began making and selling machines in 1832. Another company to take up the licence was Thomas Green of Leeds.

Budding's patent did not cover Scotland and

Alexander Shanks of Arbroath took full advantage of this by registering his design and in doing so moved mower technology forward. Shank's machine was horse drawn. It was quickly followed by models from other manufacturers, and a variety of larger machines up to 40 inches became available. These could be pulled by horses, ponies and donkeys. Leather shoes were fitted over the hoofs to stop them damaging the turf.

The wind blew in young James Sumner's face as he sped through the highways and byways of Lancashire. There was very little traffic about – only the odd steam wagon, horse and cart or rider. The local police were not amused with Sumner's new invention, a steam-driven tricycle. As a result it is reputed he was fined for travelling too fast!

Sumners's family business had been built up from a smithy at the time of the Napoleonic Wars to an iron foundry capable of forging castings of up to half-a-ton. When James inherited the company it was heavily in debt and to help resolve this problem he adapted his tricycle engine to fit a lawnmower. Unlike conventional steam engines, the Sumner model was powered by paraffin and a hand pump pressurised the water tank to enable the unit to raise steam within ten minutes. Two sizes were available, a 25" and 30". One of the first steam driven lawn mowers was sold to Rugby School. On one demonstration it is reported that the mower was being operated by the gardener. He opened the throttle too much and was seen disappearing into an ornamental lake, shouting "Whoa!" Other manufacturers including Shanks and Greens produced their versions of a steam-driven mower including a ride-on model. All were heavy, noisy and difficult to control.

Meanwhile, back at Ipswich, James Edward Ransome was about to make another breakthrough that was to take grass cutting technology forward in leaps and bounds. The company took out a patent in 1902 on a petrol-driven mower and went into manufacture immediately. Cadbury Bros of Bourneville were one of the first companies to invest in

this new model for mowing their sports grounds.

Trials were arranged between Sumner's and Green's steam mowers and a Ransomes petrol machine. The result was the death knell of steam power. This was confirmed when King Edward VII arranged a demonstration on the lawns of Buckingham Palace, and gave the mower his full approval. He was quickly followed by the W G Grace who had experienced the machine in operation at the London County Cricket Ground.

The petrol-powered range offered by Ransomes at this time consisted of a 36" and 42" ride-on, a 30" pedestrian operated mower which was said to be designed for golf links plus a 24" model for ornamental lawns.

The development of the cylinder mower was not confined to the UK. A Mr Worthington, from Shawnee in the United States, introduced a new machine that was to change golf course turf maintenance considerably – the gang mower. His company later was to be taken over by the Jacobsen Corporation. By 1921 Ransomes were manufacturing Worthington gangmowers under licence here in the UK. They were very soon found on golf courses throughout this country. Other well-known names like Greens and Lloyds had also entered the gangmower market. Tractors and cars eventually replaced the horse, speeding up the cutting operation considerably.

With all this activity in raising the standards of the course, players began to demand a better finish on greens. The larger petrol powered

unit was considered to be too heavy, so a range of hand-propelled rear-roller mowers with a multi-bladed cylinder were introduced. These included the Ransomes 'Certes', Greens 'Silens Deluxe' and Shanks' 'Golf Lynx'. Lloyds of Letchworth introduced the Pegasus, this had 1hp engine that only drove the cylinder. It was constructed from aluminium alloy to keep the weight down and there was a choice of five-, seven- or eight-bladed cylinders.

One of first triple mowers for greens was the Overgreen. This came from the Worthington stable and consisted of power unit with large tyres to avoid marking the greens. It pulled three Certes cutters and was said to be able to mow eighteen greens in a day. In later years rear roller driven models began to appear and included the Auto Certes and Paladin – they quickly became popular.

The early 1970s saw the introduction of triple ride-on greens machines and hydraulically driven gangmowers. Diesel power followed and gradually the tractor is being replaced by self-propelled units and utility vehicles that act as a power source for a host of operations.

Today's machinery may incorporate computer controlled units, but one thing that has changed very little over the last 160 years is the design of the actual cutting system.

Budding's invention had a profound affect on not only sports areas, but also garden design. Its introduction on golf courses led to the development of a host of other equipment for turf management. A whole new industry evolved in turf culture that included seed and turf production, chemicals and fertiliser. The level of play was dramatically affected and this led to the development of new clubs, balls and other accessories. There is very little doubt that had Budding not invented the lawnmower someone else would have devised a system. He received very little for his invention and sadly, died 16 years after the patent was granted.

Next time you are aboard your all-singing, all-dancing, computer controlled and satellite navigated mower, think for a minute! Had Budding been an ordinary carpenter cum engineer you could today be either sweating buckets swinging a scythe, chasing rabbits off the course or shepherding a flock of sheep!

Thank you Edwin Beard Budding!



Ransomes horse drawn mower