



Typewriters

The evolution of the typewriter is part of the ongoing history of the human need to communicate. The development of the typewriter was the result of a desire both to speed up this process and to produce an aid for the blind in reading and writing. Gradually a machine emerged that revolutionised the work of the writer. Painstaking tasks that were normally carried out by hand could be carried out in minutes on the machine, leaving time to enjoy the 'finer things in life'. As the first Remington advert declared; 'To save time is to lengthen life.'

Unlike the telephone or the automobile, the invention of the typewriter has never received worldwide acclaim. This may be because the product is one associated with work rather than social life. Initially typewriters were slow sellers. When first shown to the public at an industrial fair, the machines attracted little interest, unlike the newly invented telephone, which received international attention. One reason given was that many professionals felt typing would appear rude to potential clients, as there would be no personal touch.

The first patent for a 'writing machine' was given to Henry Mill in 1714. Sadly there are no surviving details to prove its existence as a working machine. The first known typewriter was invented in the United States of America by William Burt in 1830. This was called a Typographer and printed one single letter after another. From this point on there was a flood of designs both in the United States and Europe, causing some dispute over who invented what components. These machines were usually one-offs and it was not until 1874 that a typewriter became a commercial success.

This was achieved by the inventors Christopher Sholes and Carlos Glidden, who made an agreement with the Remington company to have their model, the 'Type-writer', manufactured in quantity.



Christopher Sholes: Inventor of the first commercial typewriter. 1819-1890

Copyright:Science Museum/Science & Society Picture Library

The first machine produced wrote in capitals and was heavily influenced by the workings and appearance of the sewing machine, which was also produced by Remington. Sholes was also famous for introducing the layout of the letters on a keyboard, QWERTY, which is still in use today.



Sholes and Glidden patent typewriter, 1875

It was this machine which eventually began to inspire the public and started appearing in offices around the USA and Europe. With its growing popularity came a new source of employment, typing. During the 1880's many different types of typewriters were designed, but the one which developed the style we know today was the Underwood No.1, invented by F. X. Wagner and produced by the Wagner and Underwood Company.

The development of the portable typewriter created further opportunities for the writer. The production of a lightweight machine allowed typing to occur outside the normal workplace. One of the first portable machines was the Blickensderfer in 1893. The merit of such designs was realised during the First World War when forces recorded information in the trenches using portable typewriters.

Another advance in design and mechanics came with the development of the electric typewriter. The advantage of an electric machine was greater speed and legibility. Early attempts date back as far as 1871 when George Arrington and Thomas A. Edison (famous for inventing the light bulb) obtained a patent for an electrically driven typewriter. The public was slow to accept the machine, as many did not trust its reliability. It took until the middle of the 1950s for them to be successful, with some of the most popular being those produced by IBM.

Today the standard typewriter has disappeared from the office and the home. Instead the personal computer dominates. Writers are no longer desk-bound but free to work wherever they lay their laptops. This revolution has caused the typewriter to become a collectable rather than an indispensable product. An original Remington No.1 is now of considerable value.

Museums also collect these machines as they are examples of great design, scientific achievement and reflect the social development of the workplace. The Science Museum has a collection covering all the major phases of their development.



Recently the popularity of typewriters has undergone a resurgence. Many people have become nostalgic for a bygone era of journalists reporting in remote areas of the world or poverty-stricken authors working away at their greatest novel. From its slow beginnings the typewriter has become an icon of these times.

A prize machine from the Science Museum's collection, the Underwood typewriter was the forerunner to the modern typewriter, with its mechanics and appearance being almost identical to those seen today. Its success lay in one major advancement. This was a design that allowed typists to view what they were writing. Previous models had the paper and writing enclosed because the workings of the machine prevented visibility.



The Underwood was invented by the American Franz X. Wagner. He began to develop a mechanism which placed the bars that supported the moulded letters around the front of the machine. When a letter was depressed on the keyboard the bar would strike the front sheet, print and then fall back. This is how most modern manual typewriters work today.

Wagner showed this model to the manufacturer of inks and typewriter ribbons, John Underwood. He instantly recognised the importance of such a design and supported the scheme. It is arguable whether Wagner was the first to think of the idea of visible typing, but he was the first to perfect it.

This advance was not the only one seen on the Underwood. The machine also speeded up the type bar so that typing could be done with a lighter touch. It also had two shift keys giving capital letters and lowercase, and a tabulator key, which prevented rapid travel of the carriage (the top part of the typewriter).

The machine keyboard also adopted the QWERTY layout, recognising its popularity and usability.

The machine was a success and the company had to move twice to expand, changing its name in the process from the Wagner Typewriter Company to the Underwood Typewriter Company. By 1939 five million Underwood machines had been produced and marketed all around the world.

The success of such a machine led to the decline of many of the earlier more unusual typewriter designs. Most manufacturers recognised that they could not better the Underwood and instead set about adapting it so that they could manufacture it under their name.

Towards the end of the nineteenth century people began to develop typing skills. Many arguments raged over which method of typing and what size of keyboard should be used. One technique was touch-typing,

which was learning where the letters were on the keyboard and using all fingers while looking at the paper. This involved operating a single keyboard. The second was based around the double keyboard and involved using two or four fingers while still looking at the keys. A double keyboard has twice the amount of keys, with the capitals above and lowercase below. Both claimed to be the fastest way to type. This dispute was finally resolved when a Mr. McGurrin (an advocater of touch-typing) and a Mr. Tubb, had a competition using the two methods.

The challenge took place in Cincinnati in July 1888 and attracted worldwide attention. The winner was Mr. Gurin who beat Mr. Tubb with ease and at the same time introduced the method that would be used by typists in various forms from then on.



Though this argument had been settled it did not stop the competitions. Many typewriter manufacturers saw the potential of selling their products by creating typing challenges and the craze continued. However, one person and one type of machine prevailed. Charles. E. Smith continually won the speed-typing competition on an Underwood machine until the public lost interest and the contests stopped.

QWERTY refers to the most common form of layout of letters found on the keyboard of a typewriter or computer. The name refers to the first six letters at the top of the board. The initial idea and later development of this design came from one of the first pioneers of the typewriter, Christopher Sholes, who invented the first commercially successful machine. The original layout of letters was in an ABC format, but Sholes found this continually jammed his typewriters. To solve the problem, he asked his brother-in-law, a mathematician, to work out an arrangement that would for most of the time prevent the bars from clashing. Sholes later claimed that this was a highly 'scientific arrangement'. From this the QWERTY idea was evolved in 1873.

It has been argued that Sholes' intention in creating such a keyboard was not to produce a more efficient machine but to slow down the typist deliberately so that the flaws in his typewriter were never seen! Either way the QWERTY keyboard is still with us today. Attempts have been made to alter the design but none has been successful at winning over public opinion. Other designs have included one by Dr. August Dvorak, who attempted to simplify the keyboard and increase speed typing by 35%. However, like others before him, his ideas were not well received. He claimed changing the keyboard format was like proposing to "reverse the Ten Commandments and the Golden Rule, discard every moral principle, and ridicule motherhood"!

Those machines which adopted the accepted design, such as the Underwood, proved successful; those who tried to break with tradition, such as the Hammond typewriter, generally failed.

The job of the typist has always been dominated by women. The reason for this dates back to the 1880's when typewriters were beginning to appear in the workplace. This new source of employment was one that many men did not want to enter because the wages were low.

It was in America that the idea of employing women to type was first formed. In 1881 the Young Women's Christian Association bought six typewriters and began a typing class for eight women. Within five years 60,000 were working throughout the United States.

As typing classes began to develop, some typewriting manufacturers' including Remington, began to set up their own schools. It was within these schools that the skill of shorthand began to be taught alongside the all-finger touch-typing technique. In some cases companies would train up women and then offer their skills when selling their machines to an office.

The evolution of women in the office has had impact on the development of women's rights in all areas of professional life. Before the advent of the typist most women were working in shops, factories or domestic service. Only if they had received a high level of education could women improve their prospects by pursuing nursing or teaching. With the development of the typist and typing-pools, women could take up a 'respectable' job which did not demand such high levels of education.

The increasing number of women in the workplace cannot just be explained by the development of the typewriter. What the machine did do was establish a role that allowed further opportunities to grow. However, there was also a drawback to the rise of the typist. Many women began to be stereotyped as only able to carry out this level of work and had to struggle to improve their position.

References

- Adler, M.A. , *The Writing Machine: A History of The Typewriter*, : George Allen & Unwin Ltd., 1973
- Beeching, W. A. , *A Century of the Typewriter*, : Heinemann, 1974
- Current, R.N. , *The typewriter (A history of the Sholes & Gidden)*, Urbana: University of Illinois Press, 1954
- Davies, M.W. , *Women's place is at the typewriter: office work and office workers 1870-1930*, Philadelphia: Temple University Press, 1982
- Duncan, J. , *Old typewriters*, : Shire Publications, 1993
- Mares, G.C., *The history of the typewriter*, London: Guilbert Pitman, 1909
- Storm, S.H., *Beyond the typewriter: gender, class and the origins of modern American office work, 1900-1930*, Urbana: University of Illinois Press, 1992
- Tilghman-Richards, G. , *The History and Development of Typewriters*, London: HMSO, 1964