



The History of A.T. Cross Company

A Family Business

The A.T. Cross Company is America's oldest manufacturer of writing instruments with a history that extends back for almost 170 years. The company was founded in Providence, Rhode Island in 1846 by Richard Cross, whose family boasted five generations of jewellers, originally hailing from the English Midlands. The first products made by the company were ornate gold and silver casings for wooden pencils. It has been suggested that the registration of the company took place at some point during or shortly after 1847, but the birth of Richard Cross' son, Alonzo Townsend, in 1846 represented its founding and gave the company its name, hence the earlier date.ⁱ Alonzo T Cross shared his father's passion for writing instruments and received his first US patent in 1876, by which time he had inherited the family business.



In 1916, employee Walter Boss purchased the company and his descendants remain key figures within the company today. Walter Boss was the company's top salesman and was offered the company by Alonzo Cross. Boss' history together with his talent in sales were a natural asset to the company and soon the Cross Company was being marketed from New York, in addition to boasting a larger and more colourful product range.

During the First World War, as was the case with many manufacturing companies, Cross became involved in the war effort by producing parts for the Army Signal Corps. Walter's sons, Ellery, Russell and Arthur, became more heavily involved in the company in the period after the war which saw significant growth in the writing instrument market, with Walter Boss' grandsons remaining key figures in the leadership of Cross today.

The Invention of the Stylographic Pen

The era into which the A. T. Cross Company was founded saw great change in the writing instrument industry. Many writers were still using quill pens or had recently made the transition to more durable dip pens made from a range of precious or durable metals. Cross' contribution to this period of pen evolution was the first stylographic pen, often cited as a technological ancestor of the ball point pen in 1879, less than a decade before Lewis Waterman invented the first commercially viable fountain pen.

The earliest surviving examples of fountain pens date from the start of the eighteenth century. The exact origins of the first fountain pen remain unclear and although the French royal instrument maker Nicholas Bion (1652-1733) makes reference to them in a treatise written by him in 1709, he was neither the inventor nor the patent holder for them.

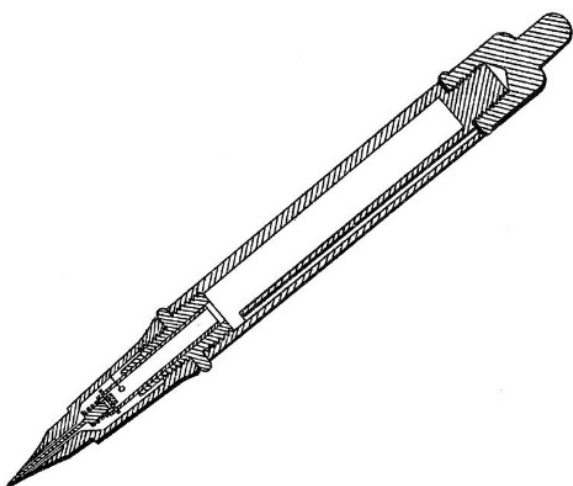
These early prototypes still made use of a quill nib until gold tipped nibs became more popular. Whilst it was beneficial for the writer to be spared from constantly having to dip the nib for ink, the first models were dogged with design flaws which invariably led to the ink leaking from the reserve. Early patents were issued to Baltimore shoemaker Peregrin Williamson in 1809 followed by John Scheffer in Britain in 1819. The first self-filling fountain pen was patented in 1813 by John Jacob Parker in 1813.

The design flaws that dogged the first generation of fountain pens were finally overcome by Lewis Waterman in 1883. In the decade that preceded Waterman's commercial success, Alonzo Cross had designed a reliable refillable ink pen, although the lack of a nib precludes the stylographic pen from being defined as a fountain pen.

The initial design was the concept of a Canadian druggist, Duncan McKinnon, who described the pen as an 'ink pencil'. The design received a patent in Canada and Great Britain in 1875 and in the United States the following year. McKinnon's greatest business error came when he left a sample of his pen with Alonzo Cross who was able to identify a simple modification, the addition of a spring, which would improve the pen's performance. Alonzo Cross received a US patent for his design in 1877 and the battle between McKinnon and Cross continued for several years.ⁱⁱ

Whilst Cross' patented design meant that there was now a reliable refillable ink pen on the market, in reality the nib of the fountain pen was more versatile whereas the stylographic pen suited the precision required in technical drawings, hence their alternative name: ink pencils. Cross secured a total of nine patents for these pens in his lifetime.

The design of the stylographic pen used a technology also key to the success of the fountain pen, namely capillary action. The tip of the stylographic pen was a very thin metal tube which housed an even finer wire which featured a spring at the end closest to the ink barrel. When the metal tube tip was depressed onto paper, the spring would compress allowing the even release of ink from the barrel to the tip. The snug fit of the wire within the tube prevented ink leakage but the size of the wire made it very susceptible to damage when the ink barrel was being refilled using an eyedropper.



Whilst the fountain pen proved more popular for the purpose of general writing, the stylographic pen was an effective partner for another innovation of the second half of the 19th century – carbon paper. The challenge to produce multiple copies of the same written text required a sturdy pen with a strong nib. Whilst many had favoured using a metal stylus for producing the original to be reproduced using carbon paper, the even ink flow of the stylographic pen was an obvious choice until the widespread introduction of the typewriter into businesses at the end of the 19th century.

The durability of the stylographic pen appealed to the US post office who insisted upon its use amongst its employees. Stylographic pens remained popular throughout the 20th century, especially for technical drawing which requires an extremely fine point but also one which produces a consistent ink line width regardless of how the pen is held by the writer. Whilst computer aided design has reduced the demand for stylographic pens, they are still manufactured in a range of sizes, the smallest of which has a stroke width of just 0.1 mm.

The Propel-Repel Mechanical Pencil

The difference between a conventional pencil and a mechanical pencil is the ability to extend and replace the graphite core, or ‘lead’ as it is commonly referred to. The earliest known example of a mechanical pencil was found aboard *HMS Pandora* which sank off the coast of Australia in 1791.ⁱⁱⁱ Over the next century a range of mechanisms were introduced including the addition of a spring to propel the lead.

A propel-repel mechanical pencil differs from a mechanical pencil in that it is possible to advance and also retract the lead. Alonzo Cross is credited with the invention of the first propel-repel mechanical pencil in 1879 which acted as the technological forerunner to today’s modern mechanical pencil. Further patents were issued in the decade that followed, including a patent in 1885 which focused on the screw mechanism and the ability to expel the redundant lead when it needed replacing. In his lifetime, Alonzo Cross held 6 patents for mechanical pencils.

The Cross Fountain Pen

The first Cross fountain pens were manufactured in the 1930s. The Roaring Twenties had seen companies such as Waterman and Parker enjoying great commercial success following the introduction of celluloid into the fountain pen manufacturing process. This enabled a greater choice in colours and patterns for the pen barrel and resulted in a shift in the perception of the fountain pen from merely a writing instrument to a fashionable item that could reflect a person’s individual preferences and style.



One of Cross' most successful fountain pens of the 1930s was an art deco pen which featured black enamel detailing and was made from gold and chrome. It was part of a set that featured a pencil that Cross expected to be the more popular, but the enduring appeal of a quality fountain pen in the 1930s won the popularity contest:

"The pen was supposed to play second fiddle to a co-released pencil, but instead it was the star of the set."^{iv}

Although Cross' history predates many of the other fountain pen manufacturers, the company does not list any new fountain pen launches between 1930 and 1982^v. It was the famous art deco pen first launched in 1930 that Cross chose to model the 150th Anniversary Limited Edition fountain pen on in 1996. In total, 10,000 writing instruments were produced in this range including a fountain pen, twist-action ball point pen and twist-action pencil. The fountain pen was priced at \$1000, with the ball point pen and pencil priced at \$500 each.



Cross and the Ball Point Pen

The 1940s was the decade that saw the launch of the first ball point pens amongst a storm of outrageous marketing claims and campaigns. Despite many comparisons being drawn between the Cross stylographic pen design and ball point pen technology, Cross, like Parker, chose not to release a ball point pen until 1953, which proved to be a sound business decision. By the end of the 1940s many of the ball point manufacturers had been forced to drastically reduce their prices and retract their unsubstantiated claims until the design and manufacturing process had evolved.

The most famous ball point boom and bust example of the 1940s was that of the Reynolds Company that brought the first ball point pens to North America. The Reynolds International pen went on sale on Monday 29th October 1945 for the sum of \$12.50, despite production costs of only 80 cents. On the first day of sales, more than 8000 pens were purchased, bringing in \$100,000 for Reynolds' company – close to \$1 million today. By February of 1946, four months after the launch of the first Reynolds ball point pen, he had made a profit of \$1.5 million.

By early 1947, there were more than 150 ball point pen manufacturers in North America but poor quality and a flooded market had driven the price down to less than a dollar. Just a year later, Milton Reynolds admitted defeat and retreated from the ball point business. Despite making a \$5 million profit, faulty pens and stiff competition together with consumer apathy with the ball point pen finally caught up with him.

Cross' first ball point pen was known as 'The Century', a 12 carat gold-filled model which featured a propel-repel twist mechanism. This was a unique selling point for the pen as this technology had not been seen in many previous models manufactured by other companies. As it was similar to the mechanism seen in Cross' mechanical pencils, the design lent itself to the marketing of ball point pen and pencil sets. Ellery Boss, son of Walter, received a US patent in 1954 for his modifications to the design of the internal workings of the ball point pen which featured a slimmer ink refill that could be more easily replaced.^{vi} The Century range is still available today and features many models including fountain pens.^{vii}

Cross embraces the Digital Age

The Cross Pad was introduced as a digital writing pad in collaboration with IBM in 1997, some 13 years before the Apple iPad was first launched. A team at the IBM Thomas J Watson Research Center designed the writing tablet as a platform for handwriting recognition software that they had spent many years developing.

The principle of the Cross Pad was simple – the user writes onto a standard A4 sized piece of paper and the Cross Pad Tablet beneath is able to capture the movements of the Cross Pad's pen, which contains a small radio transmitter. Using the handwriting recognition software, the handwritten text is translated into a word processed document that can be saved and printed.

The tablet was marketed as an unobtrusive note-taking device for meetings, where typing on a laptop might distract others. Whilst there were other pen computers available, many users were uncomfortable using a stylus and were seeking a lightweight alternative that felt more familiar. The Cross Pad could store up to 50 pages of text or drawings and also had the obvious advantage of producing an instant paper original which could be filed, recognising that the late 1990s was just the beginning of the era of the paperless office.



The handwriting recognition software that accompanied the Cross Pad required 30 minutes of training to ensure accuracy, regardless of the neatness of the user's handwriting. The partnership of IBM and Cross seemed ideal as Cross were recognised as a popular brand for writing instruments amongst business executives with many companies awarding branded Cross pens to salespersons meeting targets.

The Cross Pad was received positively by reviewers from the computing world:

"The look of the product with its conventional 8.5 x 11" notepad generates immediate excitement and enthusiasm from anyone who sees it."^{viii}

Despite this enthusiasm, the Cross Pad was discontinued in 2004 in a decade where laptops became more popular alongside the Palm Pilot and other PDAs that preceded the smartphone generation.

Cross Today

Diversification beyond writing instruments began for Cross with the purchase of Mark Cross Inc., a leather goods company, in 1983. The product portfolio today includes a range of luxury executive items ranging from reading glasses to leather cases and wallets.

As with many manufacturers of writing instruments, Cross have acknowledged and embraced the digital age with a range of hybrid styluses suitable for use with mobile touchscreens. The styluses range from a slim line Tech 1 stylus to the Tech 3 which features a red editing pen, a pencil and ball point pen in addition to a stylus suitable for typing, swiping and tapping as required.



Cross today sell writing instruments in more than 140 countries around the world with subsidiaries in Canada, Japan, Hong Kong, Taiwan, the United Kingdom, Spain, France, Germany and Holland.

The 170 year history of A.T. Cross epitomises a rare stability in modern times, from the pens which still boast similar signature designs from those manufactured more than a century and a half ago to the company headquarters that remain in the small town of Lincoln, Rhode Island.

ⁱ Information gathered from <http://www.collectorsweekly.com/pens/cross>

ⁱⁱ Information gathered from <http://www.richardspens.com/?page=ref/design/stylos.htm>

ⁱⁱⁱ More information about this archaeological discovery can be found at the Queensland Museum's website located at <http://www.qm.qld.gov.au>

^{iv} Quotation taken from <http://www.collectorsweekly.com/pens/cross>

^v Cross' full product history is available at the company website located at http://www.cross.com/en/GB/CompanyInformation/ProductHistory.aspx?cat_name=Product_History

^{vi} US Patent 2753844

^{vii} An extensive collection of Cross pens are available to purchase from the Pen Warehouse located at <http://www.pens.co.uk/top-brands.php>

^{viii} Quotation taken from N Kleinman's Cross Pad Product Review published in *Pen Computing* and located online at <http://www.pencomputing.com/archive/PCM22/crosspad.html>

IMAGE CREDITS

Cover image: https://upload.wikimedia.org/wikipedia/commons/3/37/Cross_Pen.jpg

Image of Alonzo Cross: http://coral.com.ve/media/images/alonzo_townsend.png

Image of stylographic pen: <http://images.fineartamerica.com/images-medium-large/stylographic-pen-1881-granger.jpg>

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Image of Cross Pad: <http://rath.ca/RamblingInRath/ChristopherRath/Graphics/CrossPad.gif>

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