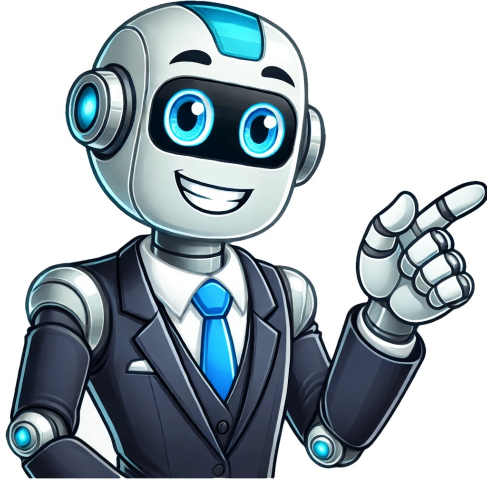


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Peças maquina de costura

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Código: 204ASVS ver detalles Machine used to stitch fabric This article's lead section may be too short to adequately summarize the key points. Please consider expanding the lead to provide an accessible overview of all important aspects of the article. (November 2023) Diagram of a modern sewing machine Animation of a modern sewing machine As it stitches A sewing machine is a machine used to sew fabric and materials together with thread. Sewing machines were invented during the first Industrial Revolution to decrease the amount of manual sewing required to make clothing and household items. They replaced hand stitching methods, which had been used to hold fabrics together since ancient times. By the late nineteenth century, while using a single stitch type at a time. In a modern sewing machine, the process of stitching has been automated, so that the fabric easily glides in and out of the machine. Early sewing machines were powered by either constantly turning a flywheel handle or with a foot-operated treadle mechanism. Electrically-powered machines were later introduced. Industrial sewing machines, by contrast to domestic machines, are larger, faster, and more varied in their size, cost, appearance, and tasks. Charles Fredrick Wiesenthal, a German-born engineer working in England, was awarded the first British patent for a mechanical device to aid the art of sewing, in 1755. His invention consisted of a double pointed needle with an eye at one end.[2] The first sewing machine, invented by Thomas Saint, London, 1790. In 1790, the English inventor Thomas Saint patented the first sewing machine design.[3] His machine was meant to be used on leather and canvas material. It is likely that Saint had a working model, but there is no surviving evidence of one. He was a skilled cabinet maker and his device included many practical and functional features: an overhanging arm; a feed mechanism (adequate for short lengths of leather); a vertical needle bar; and a looper. Saint created the machine to reduce the amount of hand-stitching on garments, making sewing more reliable and functional. His sewing machine used the chain stitch method, in which the machine uses a single thread to make simple stitches in the fabric. A stitching awl would have pierced the material, and a forked-point rod would have carried the thread through the hole, where it would have been hooked underneath and moved to the next stitching place, after which the cycle would be repeated, thereby locking the stitch in place.[4] Such machines were designed to aid in the manufacturing of various leathers goods, including saddles and bridles, but it was also capable of working with canvas, and was used for repairing ship sails. Although his machine was very advanced for its era, the concept would need steady refinement before becoming widely available. The first mass-produced sewing machine was developed by Elias Howe Jr., who lived in Lowell, Massachusetts. Howe's machine was built by two Englishmen, Thomas Stone and James Henderson, and a machine for embroidering was constructed by John Duncan in Scotland,[5] An Austrian tailor, Josef Madersperger, began developing his first sewing machine in 1807 and presented his first working machine publicly in 1814. However, he never received financial support from his government, the Austrian tariff worked on the development of his machine until 1839, when he built a machine imitating the weaving process using the chain stitch. The first practical and widely used sewing machine was invented by Barthélemy Thimonnier, a French tailor, in 1829. His machine sewed straight seams using a chain stitch like Saint's model had, and in 1830, he signed a contract with Auguste Ferrand, a mining engineer, who made the requisite drawings and submitted a patent application. The patent for his machine was issued on 17 July 1830, and in the same year, he and his partners opened the first machine-based clothing manufacturing company in the world to create army uniforms for the French Army. However, the factory was burned down, reportedly by workers fearful of losing their livelihood, following the issuing of the patent.[6] A model of the machine is exhibited in London at the Science Museum. The machine is made of wood and uses a barbed needle which passes downward through the cloth to grab the thread and pull it up to form a loop to be locked by the next loop. Elias Howe's lockstitch machine, invented in 1845An 1880 hand-cranked machine from the Wheeler and Wilson CompanySewing Machine from the Everyday Collection of the Museu da Capitania de IheusJones Family CSX machine from around 1935 The first American lockstitch sewing machine was patented by Elias Howe Jr. in 1846. His machine was based on the shuttle system, which involved passing the thread back and forth between two needles. While this system allowed for decorative stitching, it was slow and unreliable, requiring the machine to be stopped frequently and reset up. Hunt eventually lost interest in his machine and sold individual machines without bothering to patent his invention, and only patenting it at a late date of 1854. In 1842, John Greenough patented the first sewing machine in the United States. The British patents Newton and Archibald introduced the eye-pointed needle and the use of two pressing surfaces to keep the pieces of fabric in position, in 1841.[8] The first machine to combine all the disparate elements of the previous half-century of innovation into the modern sewing machine was the device built by English inventer John Fisher in 1844, a little earlier than the very similar machines built by Isaac Merritt Singer in 1851, and another lesser known Elias Howe, in 1845. However, due to the botched filing of Fisher's patent at the Patent Office, he did not receive due recognition for the modern sewing machine in the legal disputes of priority with Singer, and Singer reaped the benefits of the patent. Elliptic sewing machine with elliptic hook and stationary bobbin, American Institute Fair, 1862Singer treadle machineThe bobbin driver of a Husqvarna 3600 sewing machine Elias Howe, born in Spencer, Massachusetts, created his sewing machine in 1845, using a similar method to Fisher's except that the fabric was held vertically. An important improvement on his machine was to have the needle running away from the point, starting from the eye.[9] After a lengthy stay in England trying to attract interest in his machine, he returned to America to find various people infringing his patent, among them Isaac Merritt Singer.[10] He eventually won a case for patent infringement in 1854 and was awarded the right to claim royalties from the manufacturers using ideas covered by his patent, including Singer. Singer had seen a rotary sewing machine being repaired in a Boston shop. As an engineer, he thought it was clumsy and decided to design a better one. The machine he devised used a falling shuttle instead of a rotary one; it could sew both sides of the fabric simultaneously, and it converted reciprocating motion to rotary motion, was adapted to drive the sewing machine, leaving both hands free. When Howe learned of Singer's machine he took him to court, where Howe won and Singer was forced to pay a lump sum for all machines already produced. Singer then took out a license under Howe's patent and paid him US\$1.15 per machine before entering into a joint partnership with a lawyer named Edward Clark. They created the first hire-purchase arrangement to allow people to purchase their machines through payments over time. Meanwhile, Allen B. Wilson developed a shuttle that reciprocated in a short arc, which was an improvement over Singer and Howe's. However, John Bradshaw had patented a similar device and threatened to sue, so Wilson decided to try a new method. He went into partnership with Nathaniel Wheeler to produce a machine with a rotary hook instead of a shuttle. This was far quieter and smoother than other methods, with the result that the Wheeler & Wilson Company produced more machines in the 1850s and 1860s than any other manufacturer. Wilson also invented the four-motion feed mechanism that is still used on every sewing machine today. This had a forward, down, back and up motion, which drew the cloth through in an even and smooth motion. Charles Miller patented the first machine to stitch buttonholes.[12] Throughout the 1850s more and more companies were being formed, each trying to sue the others for patent infringement. This triggered a patent thicket known as the Sewing Machine Race [13][14] In 1856, the Sewing Machine Combination was formed, consisting of Singer, Howe, Wheeler, Wilson, and Grover and Baker. These four companies pooled their patents, with the result that all other manufacturers had to obtain a license for \$15 per machine. This lasted until 1877 when the last patent expired, James Edward Allen Gibbs (1829–1902), a farmer from Raphine in Rockbridge County, Virginia, patented the first chain stitch single-thread sewing machine on June 2, 1857. In partnership with James Willcox, they founded the Willcox and Gibbs Sewing Machine Company, which manufactured sewing machines for domestic use worldwide until the early 1900s. In preparation for the thread William Jones started making sewing machines in 1859 and in 1860 formed a partnership with Thomas Chadwick. As Chadwick & Jones, they manufactured sewing machines at Ashton-under-Lyne, England until 1863. Their machines used designs from Howe and Wilson produced under licence.[15] Thomas Chadwick later joined Bradbury & Co. William Jones opened a factory in Guide Bridge, Manchester in 1869.[16] In 1893 a Jones advertising sheet claimed that this factory was the "Largest Factory in England Exclusively Making First-Class Sewing Machines".[17] The firm was renamed as the Jones Sewing Machine Co. Ltd and was later acquired by Brother Industries of Japan, in 1968.[18]

Clothing manufacturers were the first sewing machine customers, and used them to produce the first ready-to-wear clothing and shoes. In the 1860s consumers began purchasing them, and the machines—ranging in price from £6 to £15 in Britain depending on features—became very common in middle-class homes. Owners were much more likely to spend free time with their machines to make and mend clothing for their families than to visit friends, and women's magazines and household guides such as Mrs Beeton's offered dress patterns and instructions. A sewing machine could produce a man's shirt in about one hour, compared to 14–12 hours by hand.[19] In 1877, the first of their crocket machine was invented and patented by Joseph M. Merrow, then-president of what had started in the 1840s, as a machine shop to develop specialized machinery for the knitting operations. This crocket machine was the first production overlook sewing machine. The Merrow Machine Company went on to become one of the largest producers of overlook sewing machines and industrial sewing machines in the world. Millions of men's shirts, coats, trousers, skirts, dresses, blouses, pajamas, etc. were produced by roatary latch machines in the 20th century. Sewing machines became popular because of their ease of use and ability to make rough seam designs. Overlook machines well into the 1900s, when electric machines were developed by Singer Sewing Co. and introduced in 1889.[20].

By the end of the First World War, Singer was offering hand, treadle and electric machines for sale. At first, the electric machines were standard machines with a motor strapped on the side, but as more homes gained power, they became more popular, and the motor was gradually introduced into the casing. Sewing machines were strictly mechanical, using gears, shafts, levers, and so on, until the 1970s when electronic machines were introduced to the market. Electronic sewing machines incorporate components such as circuit boards, computer chips, and additional motors for independent control of machine functions. These electronic components enabled new features such as automating thread controls, needle positioning, and back-tacking, as well as digitized stitch patterns and stitch combinations. Because of the lifespan and increased complexity of the electronic parts, electronic sewing machines do not last as long as mechanical sewing machines, which can last over 100 years.[21]

The basic chain stitchFormation of a lock-stitch using a boat shuttle as employed in early domestic machinesLockstitch utilising a rotating hook invented by Allen B.Wilson. This is employed on many modern machinesFormation of the double locking chain stitcHázoje industrial overlucker Sewing machines can make a great variety of plain or patterned stitches. Ignoring strictly decorative aspects, over three dozen distinct stitch formations are formally recognized by the ISO 4915:1991 standard, involving one to seven separate threads to form the stitch.[22] Plain stitches fall into four general categories: chainstitch, lockstitch, overlook, and coverstitch. Chain stitch was used by sailors to repair ropes and cables, and any kind of rope or cable can be repaired with chain stitch. Coverstitch is commonly found on knitted fabrics. Lockstitch is the most common stitch used in garment construction. It consists of two interlocking loops of thread forming a secure bond along the edge of the fabric. The lockstitch. The chain stitch is still used today in clothing manufacture, though due to its major drawbacks it is generally paired with an overlook stitch along the same seam. Lockstitch is the familiar stitch performed by most household sewing machines and most industrial "single needle" sewing machines, using two threads, one passed through a needle and one coming from a bobbin or shuttle. Each thread stays on its own side of the material while being sewn, interacting with the other thread at each needle hole by means of a bobbin driver. As a result, a lockstitch can be formed anywhere on the material being sewn; it does not need to be near an edge. Overlock, also known as "serging" or "serger stitch", can be formed with two to four threads, one or two needles, and one or two loopers. Overlock sewing machines are usually equipped with knives that trim or create the edge immediately in front of the stitch formation. Household and industrial overlook machines are commonly used for garment seams in knit or stretchy fabrics, for garment seams where the fabric is light enough that the seam does not need to be pressed open, and for protecting edges against unraveling. Machines using two to four threads are most common, and frequently one machine can be configured for several varieties of overlook stitch. Overlock machines with five or more threads usually make both a chainstitch with one needle and one looper, and an overlook stitch with the remaining needles and loopers. This combination is known as a "safety stitch". A similar machine called for stretch fabrics is called a mock safety. Coverstitch is formed by two or more needles and one or two loopers. Like lockstitch and chainstitch, coverstitch can be formed anywhere on the material being sewn. One looper manipulates a thread below the material being sewn, forming a bottom cover stitch against the needle threads. An additional looper above the material can form a top cover stitch simultaneously. The needle threads form parallel rows, while the looper threads cross back and forth all the needle rows. Topcover stitch is often used on ribbed neckbands, cuffs, waistbands, hems, and collars. Serger stitch is typically used on hemming and finishing raw edges of woven fabrics. Serging involves creating a series of overlapping loops that enclose the fabric edge, providing a durable finish. The serger stitch is commonly used for finishing raw edges of woven fabrics, creating professional-looking hems, cuffs, and collar bands. Additionally, sergers excel at creating wide, flat finishes for items like aprons and tote bags. Some sergers offer differential feeding capabilities, allowing users to adjust the tension of different layers of fabric independently. This feature is particularly useful when sewing stretchy materials, ensuring balanced results across multiple layers. Furthermore, certain models include automatic trimming mechanisms, streamlining the workflow by cutting excess fabric directly beneath the presser foot. Many sergers also come equipped with interchangeable feet, enabling versatility in handling diverse materials ranging from lightweight silks to heavy-duty denim. Overall, understanding the unique strengths and applications of these specialized stitches empowers crafters to achieve superior results in their sewing projects, whether tackling intricate details or efficient bulk processing tasks.

In the lockstitch, The chain stitch is still used today in clothing manufacture, though due to its major drawbacks it is generally paired with an overlook stitch along the same seam. Lockstitch is the familiar stitch performed by most household sewing machines and most industrial "single needle" sewing machines, using two threads, one passed through a needle and one coming from a bobbin or shuttle. Each thread stays on its own side of the material while being sewn, interacting with the other thread at each needle hole by means of a bobbin driver. As a result, a lockstitch can be formed anywhere on the material being sewn; it does not need to be near an edge. Overlock, also known as "serging" or "serger stitch", can be formed with two to four threads, one or two needles, and one or two loopers. Overlock sewing machines are usually equipped with knives that trim or create the edge immediately in front of the stitch formation. Household and industrial overlook machines are commonly used for garment seams in knit or stretchy fabrics, for garment seams where the fabric is light enough that the seam does not need to be pressed open, and for protecting edges against unraveling. Machines using two to four threads are most common, and frequently one machine can be configured for several varieties of overlook stitch. Overlock machines with five or more threads usually make both a chainstitch with one needle and one looper, and an overlook stitch with the remaining needles and loopers. This combination is known as a "safety stitch". A similar machine called for stretch fabrics is called a mock safety. Coverstitch