



ISE (PTE)ENTERPRISE INC.

# History of denim Jeans

Levi Strauss was born to a Jewish family as Loeb Strauss in Buttenheim in Bavaria then part of the German Confederation. In 1847, Strauss, his mother and two sisters moved to New York City to join his brothers, Jonas and Louis Loeb, in their dry goods business. By 1850 he had adopted the name "Levi Strauss."

In 1853, Strauss moved to the bustling and noisy San Francisco, California where the rush for gold was still in high gear, Levi expected that the mining camps would welcome his buttons, scissors, thread and bolts of fabric that he had brought with him, along with the yards of canvas sail cloth that he intended to sell for tent-making and as covers for the wagons that were to be found next to every stream and river in the area.

It was here on California Street where he and his brother-in-law David Stern opened a dry goods wholesale business, Levi Strauss & Co., selling to small stores. Strauss observed that the work clothes worn by gold prospectors and miners did not stand up well under the torturous work in mine shafts, digging in the dirt and grime. Strauss developed the concept of durable canvas pants. Initially, they were not very comfortable to wear but were very durable. Later, Strauss discovered denim and produced even more popular and comfortable apparel.

Levi was often found leading a pack-horse, which was heavily laden with his merchandise, directly into the mining camps throughout the region. The story goes that both prospectors and miners, often complaining about the easily torn cotton "britches" and pockets that "split right out" is what gave Levi the idea to make a rugged overall trouser for the miners to wear. They were fashioned from bolts of brown canvas sailcloth, with gold ore storing pockets that were nearly impossible to split. Levi exhausted his original supply of canvas, as the demand grew for his hard-wearing overalls, and so Levi switched to a sturdy fabric which was called serge, that was made in Nimes France Originally



*Levi Strauss*

## contents

- history of denim jeans
- jeans production
- designer jeans
- water soluble oil
- 80<sup>th</sup> birthday

### OUR PARTNERS

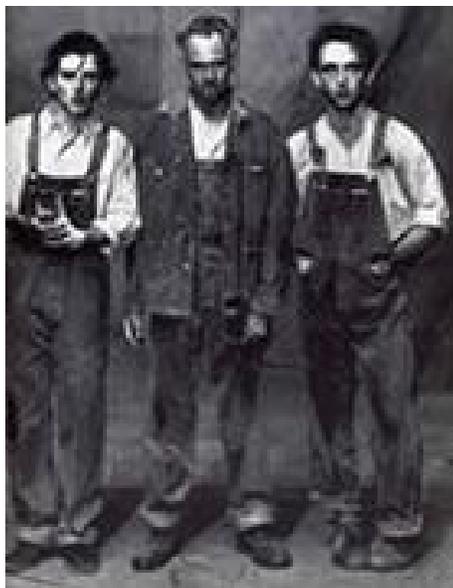




Continued from page 1...

called serge de Nimes, the name was soon shortened to denim, which is a rugged cotton twill textile, in which the weft passes under two ("double") or more warp fibres, producing the familiar diagonal ribbing identifiable on the reverse of the fabric, which distinguishes denim from cotton duck. Denim was traditionally coloured blue with indigo dye to make blue "jeans," though "jean" denoted a different, lighter cotton textile. This is because our usage of jean comes from the French word for Genoa, Italy, where the first denim trousers were made

In 1872 Levi received a letter from Jacob Davis, a Reno Nevada tailor. Davis was one of Levi Strauss' regular customers; who purchased bolts of cloth from the company to use for his own business. In this letter, Davis told



Workers in Jeans



after the big earthquake and fire of 1906.

It is not recorded when the first pair of riveted pants where produced, but it is assumed that it was in 1878 and they were called 501's, the same model number that is still used today. Back pockets were introduced in 1901 making it the five pocket jean. Other notable dates are 1910 the inside legs were Fell Seamed, 1922 Belt Loops were added, 1936 the Red tab was added to the pocket to distinguish Levi from the other brands that had appeared. In 1997 a pair of 501 jeans manufactured in 1890 were sold for \$25,000

Levi about the interesting way in which he made pants for his customers: he placed metal rivets at the points of strain - pocket corners and on the base of the fly. Because he didn't have the money to patent his process he suggested that Levi pay for the paperwork and that they take out the patent together.

On May 20, 1873 Strauss and Jacob Davis received United States patent #139121 for using copper rivets to strengthen the pockets of denim work pants. Levi Strauss & Co. began manufacturing the first of the famous Levi's brand of jeans in San Francisco.

Levi Strauss died on September 26 1902 at the age of 73. He left his thriving manufacturing and dry goods business to his four nephews — Jacob, Louis, Abraham and Sigmund Stern — who helped rebuild the company





# Jeans Production

How many pairs of jeans are produced every year throughout the world? Is a question that has puzzled me for a long time, and I think that it is impossible to obtain an accurate answer. What is known is that 450 million pairs were purchased by consumers in the USA last year.

Jeans production worldwide has led the field in automation for many years, some of the best known brand names used to have their own Research and Development departments in the USA to design machinery and processes specific to their own brands. Many of the leading sewing machine manufacturers also saw the growth in this market segment and also designed machines for denim. The first Automatic belt loop machines first appeared on the market in the USA and Europe in the early 1970's

One of the best known suppliers of Jeans manufacturing equipment is our partner from Italy, VI.BE.MAC.

Their machine range includes the versatile Belt Loop Attaching machine, which in addition to attaching western style loops, can easily be converted to attach the drop loops on casual pants, and also the classic loop which is sewn into the waistband of dress pants. This is the only machine available with these unique features.

Another unique machine in the range is the twin needle automatic waistband unit, and is designed for the application of "Levi" type waistband construction. The outer needle sews a lock stitch and the inner needle sews chain stitch. This type of stitching is particularly suitable for avoiding the damage to the external or upper stitches of the waistband, when the garment is subjected to a harsh "stone-wash" cycle.

It also results in a considerable increase in the wearability of the garment. Another model is also available for all other types of waistbands on jeans, casual trousers and denim jackets. Both types of machine are fitted with feeding devices and automatic waistband end cutters which result in less wastage of the waistband material. The machines are programmable to allow the skipping of the sewing at the start and finish to allow for the turn back of the waistband.

Other machines in the range include pocket creasers, pocket attaching, bottom hemming and full fell seam felling unit and a



VI.BE.MAC. BELT LOOP MACHINE

J stitch machine amongst others.

The production of denim jeans was one of the first industries to introduce automation, and in doing so reduced the manufacturing time and costs significantly. Because of this competitive advantage, jeans production lines were among the last to be closed in many of the developed nations like the USA and Europe.

Many of the most difficult operations in the manufacture of Jeans can be simplified and the training time reduced by





the use of this automation.

I.S.E (PTE) and VI.BE.MAC supply a complete range of machines which increase production, improve quality and reduce operator training time to the Jeans manufacturing industry, also providing full installation training and after sales service.

The turning through of the completed jean and trouser after the sewing operations is a tedious and labour intensive operation, which often causes "Carpel tunnel injuries" to the workers. This operation can be made easier and production increased with fewer operators by the use of an *Automatic Trousers Turner* from our partner *Rotondi*. The trouser turner can be used to turn both legs at the same time or single legs.

The machine works by using a strong vacuum to suck the legs into a tube, the operator then simply pulls the garment out from the tube and folds back the top of the garment. Production is increased and a lower turn over of staff.



**VIABLE**  
**GRAPHIXSCAN 500**  
**Laser Engraving Machine**  
**With Feed Tray**

## Designer

### Jeans

Expensive high-fashion jeans now feature *hand distressing* and other finishing techniques to realistically mimic wear and flatter the figure through optical illusion and shading.

*Whiskering* simulates lightly worn creases from the bottom of the fly to the hips, roughly in the shape of a cat's whiskers, and is marketed as visually slimming the hips.

*Sanding* on the front of the thighs lightens the fabric there and gives the illusion of more slender thighs. Cuffs may be tacked in folds before pre-washing to create natural-looking wear at the ankles.

*Surface Decoration* adds Images, text, logos and texture finishes onto the panels of jeans by use of a laser.

Our Partner Viable Systems, Graphixscan Model is used extensively for this operation as well as for distressing the fabrics and whiskering.

Viable machines are the most productive and precise laser engraving machines available to the garment industry. We would be pleased to prepare samples using the GraphicXscan laser on any sample fabric you bring to us.

ZSK machines are also used to decorate jeans.





# Embroidery

Another product from ISE (PTE) that is used by our embroidery ZSK users and other manufacturers is the Cone winder, which is used to rewind large cones of thread onto smaller cones for use on the ZSK machine. This rewinding operation gives considerable savings in the total usage of thread. The rewinder is portable and can be used anywhere in the plant. A demonstration model is available in our showroom.



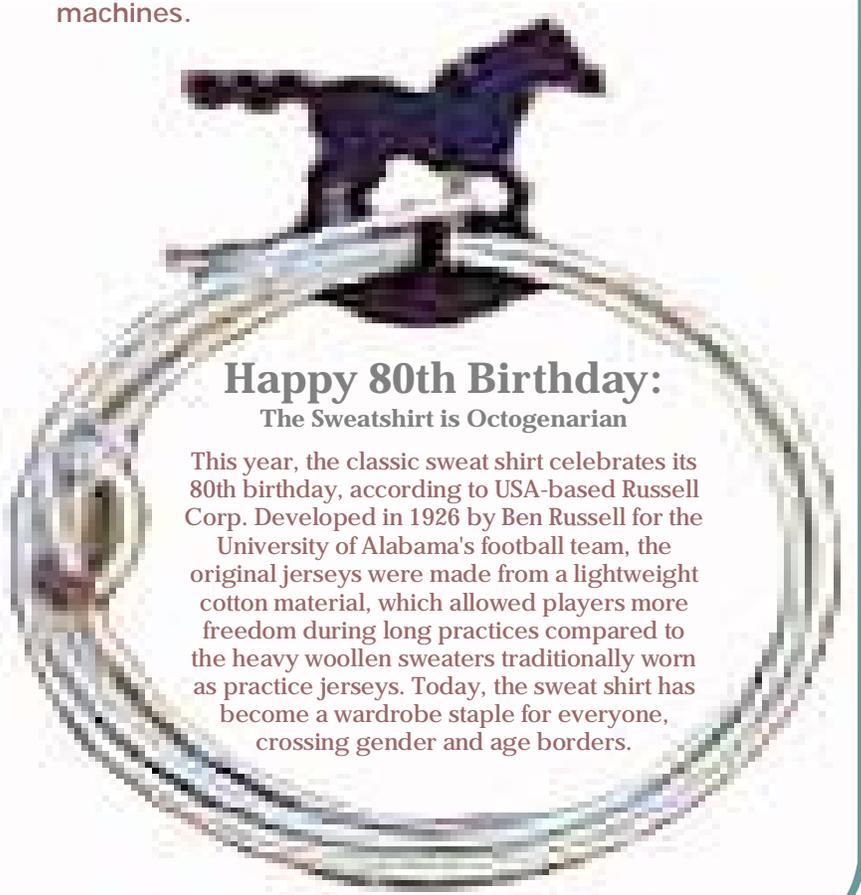
"This oil can be mixed with any type of sewing machine oil, and will still retain its ability to be washed out with water."

The percentage used needs to be established by the user, as all sewing machine oils have a different make up. User of this oil are now reporting savings in their chemical cleaning costs, which out weight the cost of the oil, and see a short payback time. The oil is easy to clean off the machine beds and needles, and is highly recommended by users of ZSK embroidery machines.

## Water Soluble Oil

In an earlier newsletter we announced the launch of our new product "water soluble oil"

To take advantage of this oil, it is not necessary to clean out the old oil from the machine. This oil can be mixed with any type of sewing machine oil, and will still retain its ability to be washed out with water.



### Happy 80th Birthday: The Sweatshirt is Octogenarian

This year, the classic sweat shirt celebrates its 80th birthday, according to USA-based Russell Corp. Developed in 1926 by Ben Russell for the University of Alabama's football team, the original jerseys were made from a lightweight cotton material, which allowed players more freedom during long practices compared to the heavy woollen sweaters traditionally worn as practice jerseys. Today, the sweat shirt has become a wardrobe staple for everyone, crossing gender and age borders.



AUTOMATION IN APPAREL PRODUCTION



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Team ISE are only to willing to be of service to the Philippine Apparel Industry, we want the industry to be successful and continue producing goods.

We will continue to search the world for products which can reduce

manufacturing costs and increase the quality of the finished product, so that we can introduce new products and new ideas to you.

If you have any comments to make about these newsletters or would like to learn more about any of our products, please do not hesitate to contact us.

