

Germany - Solingen

The city of Solingen (population 165,000), situated on the river Wupper 30 km northeast of Cologne, was founded in 1374 and has grown famous as a blade manufacturing centre; becoming Sheffield's main competitor in the cutlery industry.

The history of German sword making can be traced back to 1250.

Solingen became established as a metalworking centre, not only because of the presence of iron ore and a plentiful supply of timber for charcoal and water to drive the grindstones but because the nearby town of Cologne was Germany's richest trading centre. Solingen was making fine quality sword blades in the fourteenth century and was contracted to sell all its swords and edged weapons to Cologne where handles were attached and the finished weapons sold.

The grinders and temperers' guild was formed in 1401 and the sword smiths' guild in 1472. The cutlers' guild, with 82 cutlers, was mentioned for the first time in 1571 and the scissor smiths formed their guild in 1794.



The first cutlery to be marked with the makers name (on the handle) - 1627

Hand forging was a skilled and time consuming process but fast striking mechanical hammers, driven by water wheels, were used in the 16th century to speed up the process of hand forging by around fivefold.

Factories housing mechanical hammers were built on the rivers in and around Solingen to roughly forge sword blades before they were finished by hand forging. Although fear of unemployment caused the sword forging guild to argue that hand forged steel was better.

Sheffield was still hand forging steel at this time but was using water to drive grinding wheels.

Solingen's first water-powered pocket-knife factory was built in the Weinsberger valley in 1801 for Peter Daniel Peres, a merchant who had started a cutlery business in 1792, aged 16. He exploited a gap in the market and made "fine pen knives" using the superior crucible steel from Sheffield. (It would be another half century before Krupps started to produce significant quantities of crucible steel).



Peres was not a member of any guild and was the first employer to use unskilled workers, having received special permission from Duke Maximilian.

Peres was also known as the man who introduced "black polish" to Solingen. This was a polishing mixture made from iron oxide powder and alcohol, which had been first developed in 1760 by the Englishman Robert Hinchliffe. Peres eventually succeeded, after eight years of trying, in making the polish which was used to give blades the high gloss which was so popular on English blades.

Germany was for a time blockaded by Emperor Napoleon Bonaparte of France, restricting Solingen's exports. Sheffield was not slow to take advantage of this.

Napoleon, who briefly ruled Solingen until his abdication in 1815 after the battle of Waterloo, abolished the trade guilds' monopolies. Solingen's sword and cutlery industry grew rapidly but Solingen had lost a lot of its export markets to Sheffield.

The industry continued to expand and in 1841 it was reported that Solingen was managing to undercut Sheffield on price but Sheffield knives were more elegant. In 1896, the value of German cutlery exported to countries outside Europe was one third that of English exports.

However, rapid industrialisation did bring problems. Grinders relied on the rivers and streams in and around Solingen to power their grindstones. These were subject to freezing in winter and drying up in summer - halting all blade production. The answer lay in steam power which was introduced from the 1850's.

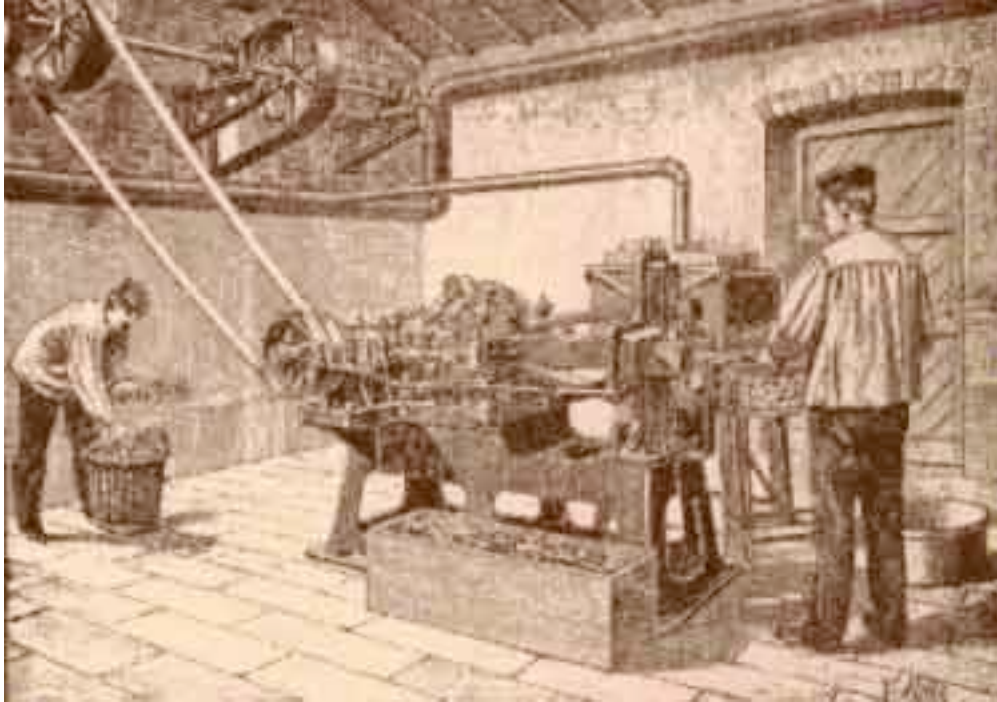
Solingen manufacturers supplied thousands of swords and bayonets to the German army during the Franco - German war of 1870 - 1871 and firms such as Weyersberg, Kirschbaum & Co. (WKC) and Carl Eickhorn are still supplying swords and bayonets.

Mechanised Forging

In 1850, J A Henckels was one of the first companies to bring together all the manufacturing processes under one roof and to employ mechanised forging machines. Henckels introduced the first steam hammer in 1861.

The mechanised drop forge which uses shaped dies in both the hammer and the anvil was at the centre of industrial development at this time. Drop forging allowed complicated shapes to be produced and revolutionised the cutlery industry. Following Henckels' lead, drop forging spread throughout Solingen.

Shears with blades up to 7 inches long were most suited to drop forging but the process was not suitable for all cutlery. For example the large blades of cooks' or butchers' knives were made on power hammers until the 1860s and the conical tang for the handle still had to be prepared by hand.



Mechanised Sharpening

The first steam-driven grind stones were built in the 1850s but the strongly unionised grinders and sharpeners with their high wage levels were more resistant to change than the forgers. However this gave the employers a greater incentive to mechanise these processes.

In 1879, the razor manufacturer C.F. Ern changed its company over to steam power. All production stages were carried out in the factory, except for grinding which was still sub-contracted out. Ern tried to limit the power of the relatively independent grinders in the following years.

The sharpening process was split into strict divisions, each individual step being performed by skilled workers. The company eventually succeeded, despite violent labour disputes over many years, in breaking the power of the union and proceeded to install powered grinding machines. However the skills of the hand grinder were still required to cope with the uneven properties of the forged material.


In 1926 the grinders' trade union gave up its resistance to the march of technical progress. Although even when improved grinding machines and better quality steel was used, some grinding and polishing operations were still carried out by hand by skilled home workers.

Solingen fared better than Sheffield when the American protective tariffs were introduced in 1891 since its cutlery was more competitively priced. By 1900, Solingen's cutlery exports exceeded those of Britain and

France combined. The First World War however saw a reduction in Germany's export markets which was not regained in the following years and Solingen's exports were only 20% of their pre-war level.

Following a brief revival during the Second World War, particularly in the manufacture of daggers and bayonets, the cutlery industry along with Solingen itself was virtually destroyed by bombing.

Although healthy today, the size of the industry is greatly reduced, employing about 5,500 people, compared with 15,000 in 1900.

	<p>Some early trade marks which survive today are the 'Tree Brand' belonging to Bökers, the Siamese twins of Henckels and the Ace of Spades belonging to Friedrich Herder.</p> <p>"Solingen" is a registered name when applied to cutlery. Only cutlery which has completed all its manufacturing and finishing operations in Solingen can be marked with that name.</p> <p>Unfortunately, there is a town in China called Solingen which also uses that name on its cutlery products!</p>
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Böker



The Bökers have been involved in toolmaking, starting in Remscheid, across the river Wupper from Solingen, since the 17th century.

In 1829, in response to an increasing demand, brothers Hermann and Robert Böker began producing sabres. Such was their success that by the end of the following year, 64 smiths, 47 grinders and a large number of unskilled labourers were employed in producing 2,000 items per week.

The brothers looked to America to expand the business and in 1837, Hermann emigrated to New York and founded H. Boker & Co., one of the oldest names in the American cutlery industry. Robert expanded his interests into the Canadian market and in 1865 founded a branch of the company, Casa Boker, in Mexico. This branch is still a market leader in Mexico.

Their cousin Heinrich moved to Solingen, the centre of the German cutlery industry and in 1869 he and Hermann Heuser, a specialist in the field of cutting tools, founded Heinr. Böker & Co. This factory supplied both the North and South American outlets with all their razors, scissors and pocket-knives. A trademark was needed to identify the company's products and Heinrich decided that the chestnut tree near the Remscheid facility represented an ideal, easy-to-remember symbol. This brand symbol was owned by the Remscheid company but was given to Heinrich. All Bökers products from the Solingen factory have carried the tree symbol.

By the end of the 19th century, the majority of items produced by Böker in Solingen were destined for H. Boker & Co. in New York. The pocket knife side of the business grew and soon became more important than scissors, razors and eating utensils. In 1899, increasing demand together with higher tariffs on imported cutlery caused H. Boker & Co. to begin manufacturing their own pocket knives in Newark, New Jersey at a factory named The Valley Forge Cutlery Company. They too were licensed to use the tree symbol on Bökers knives made in America.

The Solingen factory was destroyed during the Second World War but was rebuilt soon after the war ended and within a few years H. Boker & Co. had again become the principal customer.

The Valley Forge factory was sold in 1921 and in 1969 H. Boker & Co. was acquired by the scissors manufacturer Wiss & Sons. Founded in 1848 by Jacob Wiss, a Swiss emigrant, Wiss & Sons had no need for Böker's scissors but kept the manufacture of Böker knives and sold them together with other Solingen products.

In the early 1970s, Wiss sold Boker to Cooper Industries, a large multinational company, which was able once again to build up the Böker name. With new investment, the Solingen facility was able to streamline its production and develop new, modern products.

In 1983, Cooper discontinued knife production and all knife models are now made by Heinr. Böker & Co. of Solingen.

The South American market is still an important one for B&ker; today's tree trademark includes the words TREEBRAND and ARBOLITO. In 1983, Boker Arbolito S. A. was founded jointly with the Salzmänn family in Buenos Aires, Argentina. Its main products are household and work knives.

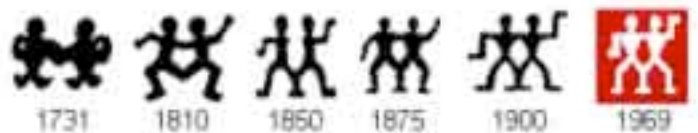


Thanks to Böker Baumwerk GmbH for help with the preparation of this article.

Henckels

The knife maker Peter Henckels (1693 - 1771) registered the famous Siamese twins trademark with Solingen's Cutlers' Guild in 1731. It is not known why that particular trademark was chosen but one suggestion is that the trademark was registered in the period late May to late June i.e. under the zodiac sign of Gemini - the heavenly twins, Castor and Pollux.

The pictures below show how the logo has changed over the years:



The present-day company takes its name from Johann Abraham Henckels. The company moved into its current premises, the Twinworks, in 1840 and from that date started to increase its production of kitchen knives.

In the 1850's J A Henckels was one of the first companies to use steam engines. This led to increased production and improved working conditions.

German cutlery manufacturers were not known for selling quality products in America in the 19th century. J A Henckels was the first kitchen and butcher's knife company to start to reverse the trend by selling top quality products, albeit at higher prices. The company opened a sales office in New York in 1883 and

subsequently expanded throughout Germany and into Europe.

J A Henckels products were being exported throughout the world and the company gained further recognition when, in 1905, the African explorer Leo Frobenius christened one range of mountains in the then Congo "Zwilling" and another range "Henckels-Berge".



Zwilling J A Henckels use two different symbols on their products - the "twins" symbol represents top of the range products, both in terms of quality and price. High quality products but at a more affordable price are marketed under the J.A. HENCKELS INTERNATIONAL brand, using the Halberdier symbol. In addition to kitchen and butchers knives, the company manufactures a range of multi-function pocket knives, scissors, flatware and manicure sets.

Thanks to Zwilling J.A.Henckels AG for help with the preparation of this article. □

Carl Linder Nachf

Carl Wilhelm Linder was born in 1816. By 1870 he had a knife making workshop in a small hamlet named Bech which is now part of Solingen. He had seven children; his youngest son Carl was born 1869.



Carl took over the business after his father died in 1890, moving to larger premises in 1903.

Due to the increasing volume of work, the business was registered as a company in October 1908.

Carl Linder was one of many manufacturers of pocket and hunting knives in Solingen but by 1911 he was mainly known for making hunting knives.

In May 1918, the company moved to premises on Erholungstr. After the end of the First World War Linder was able to supply many export markets although the company seems to have been hit hard by the Depression of 1929. Business had reduced considerably by the time Carl died in 1936 at the age of 66.

Carl Linder's only child, a daughter, had no interest in the company. So in May 1937 his widow sold the property and company with all legal rights to Paul Rosenkaimer, a knife maker of old Solingen heritage. He renamed the company Carl Linder Nachf. The word "Nachf." is an abbreviation of "Nachfolger" or "Successor".

The Second World War brought most of Linder's production to a halt. Workers were drafted to the army or to work in the arms industry. Paul Rosenkaimer and his wife continued making knives until he was drafted in 1943. His wife was left to manage on her own when their 15 year old son, Seigfried, was drafted later in 1943.



After being bombed at the end of 1944, the house and factory remained ruined until 1948 when Paul and Siegfried rebuilt the house and workshop themselves. The machinery, much of it saved from the ruins, was set up in early 1949 and after a gap of nearly 10 years, business started again.

Father and son were in business together working to meet the demand for goods to replace wartime losses, and Carl Linder Nachf. soon outgrew the space. The factory across the road was bought in 1953 and the old building was retained as a warehouse and offices until 1976 when it became part of the modernised factory building.

Paul Rosenkaimer died in 1985 and his son Siegfried is now proprietor of the company.



Thanks to Siegfried Rosenkaimer of Carl Linder Nachf. for help with the preparation of this article.








Manufacturers and Logos







The table below gives a list of the (mainly) Solingen cutlery firms with their logos and RZM code, where known, from World War 2.







From 1933 to 1936, the edged weapon manufacturers of the Third Reich placed their logo (or maker mark) on the reverse of their blades. In 1936, manufacturers reluctantly began to replace their logos with the codes assigned to them by the RZM Office. RZM is short for "Reichszeugmeisterei" and Zeugmeisterei means quartermaster.



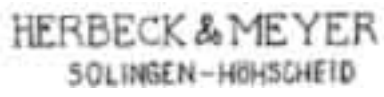

The RZM code was used on political blades only and was not used on military blades. Maker marks continued to be used on Army, Navy and Luftwaffe edged weapons until blade production ceased in 1941 (swords) and 1942 (daggers).

Manufacturer	Logo	RZM Code
Alcoso Alexander Coppel		





<p>Rich. Balee & Söhne</p>		
<p>Gebrüder Bell</p>		<p>M7/94</p>
<p>Julius Bodenstein (Steinbach)</p>		
<p>Karl Böker</p>		<p>M7/45</p>
<p>Joseph Münch Brotterei</p>		
<p>Ernst Bruckmann</p>		
<p>Rudolf Büchel</p>		









Clemen & Jung	<p>CLEMEN & JUNG SOLINGEN</p> 	
Curdtsnachf	<p>CURDTSNACHF SOLINGEN</p> 	
Ernst Dirlam	<p>HOFFMILCHWHEEL ERNST DIRLAM SOLINGEN</p> 	
Albert Dorschel	<p>ALBERT DORSCHHEL SOLINGEN</p> 	
Rich. Drees & Sohn	<p>RICH DREES & SOHN SOLINGEN</p> 	M7/96
Ebonsmann	<p>K. EBONSMANN SOLINGEN</p> 	









<p>Carl Eickhorn</p> <p>Top left: 1933-34 Top right: 1934-35 Middle: 1935-41 Bottom: post 1941</p>		<p>M7/66 M7/941</p>
<p>Fridericus</p>		
<p>Emil Gierling</p>		<p>M7/46</p>
<p>Ernst Grah</p>		
<p>Eduard Gembruch</p>		<p>M7/8</p>
<p>Rob. Giersch</p>		









Eugen Haering		
Gebrüder Heller (Marienthal)		M7/50
Henkel & Müller		
J. A. Henckels		M7/10
Herbeck & Meyer		M7/76
Herbertz & Meurer		M7/52
Heinrich Herder		M7/111
Richard Abr. Herder		M7/18
F. W. Höller		M7/33









<p>Wilhelm Hoppe</p>		
<p>E. & F. Hörster</p>		<p>M7/36</p>
<p>C. Rudolf Jacobs</p>		<p>M7/34</p>
<p>F. W. Jordan</p>		
<p>Karl Robert Kaldenbach</p>		<p>M7/12 (Duplicate)</p>
<p>Robert Klass</p>		<p>M7/37 M7/1051 (SS code)</p>
<p>Gustav L. Köller</p>	<p>GUSTAV L. KÖLLER NACHF. SOLINGEN WALD</p> 	<p>M7/60</p>



H. Kolping		
Kolum Buswerk Eduard Becker		
Carl Julius Krebs		M7/5
Peter Daniel Krebs		M7/92
Wilhelm Krieger		
Gebrüder Krumm		
Gebrüder KugelFink (Ludenscheid i. Westf.)		
Carl Fr. Kuhrt		








Tigerwerk Lauterjung & Co.		M7/68
H. & F. Lauterjung		M7/6
Johann Leupold (Bayreuth)		
Hugo Linder C. W. Sohn		M7/114
Louper		
P. D. Luneschloss		M7/14 M7/1053 (SS code)
E. Luttges & Co.		
Carl August Meis GmbH		M7/26 (Duplicate)

Gottfried Muller (Herges Vogtei)		
Carl Pauls		
Perfectum		
Pumawerk (Lauterjung & Sohn)		M7/27
Hugo Rader		
Ernst Hugo Rassae		
Rhaastert & Bull		
C. Schlieper		

<p>Juliuswerk - J. Schmidt & Soehn (Riemberg i. Schlesien)</p>		<p>M7/88</p>
<p>J. A. Schmidt & Soehne</p>		<p>M7/95</p>
<p>Friedrich August Schmitz</p>		<p>M7/74</p>
<p>Eur Reich Schweina</p>		
<p>Paul Seilheimer</p>		<p>M7/38</p>
<p>SMF Solinger Metallwaffenfabrik Stoecker & Co.</p>		<p>M7/9</p>
<p>Gustav Spitzer</p>		<p>M7/80</p>
<p>F. von Brosy Steinberg</p>		

Gebn. Torley		
Emil Voos Waffenfabrik (Steinbach Krm.)		M7/2 M7/1166 (SS code)
Adolf Völker (Schmalkalden)		
WKC Waffenfabrik GmbH Weyersberg, Kirschbaum & Co.		M7/42
WMW Waffenfabrik Max Weyersberg		M7/12
WMW Waffenfabrik Max Weyersberg		
Wagner & Lange		
Thomas Weiputz		

Justinus Werk		
A. Werth		M7/17
Wester & Butz		
Gottfried Weyersberg		
Paul Weyersberg & Co.		M7/43
Anton Wingen, Jr.		M7/51
Ernst Erich Witte (Kroneck)		M7/98 M7/183
P. D. Witte		

Josef Wolf Waffenfabrik (Munich)		M12/2
Is. Wolfepte		
Carl Wusthof (Gladiatorwerk)		M7/112
Carl Zander		
Unknown		
Unknown		
Unknown		

Many thanks to Bernie Brule for permission to use the above table, based on one on his web site SS Officer Computer Research.

The information in Bernie's table was obtained from the books: "Collecting the Edged Weapons of the

Third Reich" by Thomas M. Johnson and "Exploring the Dress Daggers of the German Army" by Tom Wittman.