

FISKARS 1649



· 350 YEARS OF FINNISH INDUSTRIAL HISTORY ·



Cover:

Fiskars village as shown in a lithograph by P.A. Kruskopf from 1848. On the left, the coppersmith's workshop, which was later altered and extended at different times. The building is now used for exhibitions. The low cutlery mill in the middle, as originally designed by C.L. Engel. When the building was destroyed in a fire at the end of the 19th century, a red brick building was erected to replace it, and now houses the offices and staff training premises of the Fiskars corporation. The roof of a wooden 18th century office building can be glimpsed between the trees. This building is still the ironworks offices. On the right, the 'Stone House', home of the ironworks owner. It still retains its original appearance and is now used mostly for functions by the Fiskars corporation.

Back cover:

All the ironworks buildings covered by insurance have been clearly marked on this fire insurance map from 1855.

Fiskars 1649



*350 years of
Finnish Industrial History*

L I B E R S E X T V S



De Mineris, & earum inuentione .

*Mineral deposits, as shown in
Olaus Magnus' work
De Gentibus Septentrionalibus
from 1555.*



IRON AND EUROPE

Without water power and blast furnaces to smelt iron ore, the industrial production of iron would be impossible. Even in the Middle Ages, blast furnaces were beginning to replace small pig iron furnaces in the Nordic region. Ore was no longer lifted from lake beds; it was economical to transport it over longer distances. Finland was rich not only in water power but also in woodlands, and it had a number of suitable harbours.

Iron-making was discovered in Asia more than 3,000 years ago. From there it spread slowly into Europe via the Caucasus. For a long time, iron production was very regional. The earliest flowing furnaces were dug into the

ground and had a natural ventilation system. Gradually, small individual furnaces powered with hand-worked bellows became common. In the course of the Middle Ages this small-scale iron production gave way to more efficient ironworks, which used iron ore from domestic mines. Water power and blast furnaces were important technical advances of the time. The ore was smelted in a blast furnace to turn the impurities into slag. However, the high carbon content of the crude or pig iron produced this way made it brittle. Only after the excess carbon had

German craftsmen making crossbows in 1568.



Miners coming up from the pit in the 16th century.

been removed by heat-ing the ore in an open hearth and forging it with a hammer did the iron turn into steel. With the harnessing of water power, it was possible to use larger bellows, furnaces and hammers. Iron-making thus moved from forests to the river banks.

Ironworks replace a cottage industry

In the early Middle Ages Finland was a sparsely populated country, far from the trading and cultural centres of Europe. The main livelihoods were hunting, fishing and slash-and-burn cultivation. Iron was already being made in Finland from lake ore by the Iron Age (c. 600-800 AD). Most of the country's lakes and bogs contained ore deposits, most abundantly in central and eastern Finland. The ore was lifted from the lakebeds with long-stemmed nets, onto a raft in summer or onto the ice in winter. The peasants produced iron by melting the ore in small flowing furnaces powered by hand-worked bellows. Once ironworks proper got going, peasant ore-refining gradually disappeared in Finland, although more slowly than elsewhere in Europe.

The mining industry reaches Finland in the 16th century

Finland's annexation to the Swedish realm and the Catholic church in the 1100s also meant its incorporation into the cultural heritage of Western Europe. As a result of growing trade, new ideas and concepts increasingly spread to northernmost Europe. The development of Sweden-Finland gained momentum during the reign of King Gustavus Vasa (1523-1560). One of the most far-reaching



The Reformation was an important cornerstone for the development of the Swedish economy. Portrait of Martin Luther by Lucas Cranach the Elder.

Signing the peace treaty of Westphalia, which in 1648 ended the Thirty Years' War.



The festive opening parade of Åbo Academy in 1640, painting by A. Edelfelt. In the middle, the Governor General of Finland, Per Brahe, and his entourage.



King Gustavus Vasa united the kingdom of Sweden and consolidated the monarchy, and also created the economic and political foundations for Sweden as a Great Power.

reforms of the time was the supersession of Catholicism by Lutheranism. The ideas of the Reformation brought Mikael Agricola, a bishop of Turku who had studied in continental Europe, to Finland. He translated the New Testament into Finnish in 1548, thus creating the basis of the written language.

Gustavus Vasa also made every effort to develop trade and industry. The history of the Finnish mining industry has its beginnings at this time. Even before Gustavus Vasa, Sweden had been an important exporter of iron ore to Europe. It was a natural assumption that Finland, too, would have ore deposits. The first Finnish iron mine was opened at Ojamo in Lohja by Erik Fleming in 1538-40. Around 1560 the Swedish Crown also set up a simple bar-iron shop at Mustio in Karjaa, which used the ore from the Ojamo mine. Mustio is thus considered to be Finland's first ironworks.

The term ironworks referred to industrial establishments that had received official permits (privilegio), such as pig-iron works, blast furnaces and other installations which concentrated mainly on refining iron ore and processing iron.

Pohja becomes the cradle of the Finnish iron industry

Sweden-Finland became a great power during the reign of Gustavus II Adolphus (1611-1632), but Sweden's involvement in the Thirty Years' War, which ended in the Peace of Westphalia in 1648, took heavy toll of the country's resources. Efforts were made to raise living conditions in



The Susisaari bailey in Suomenlinna (Viapori) sea fortress. The houses of the Commander and the General can be seen in the background. Work started on the fortress, which commands the entrance to Helsinki harbour, in 1748.

Finland to the standard in the mother country, Sweden. Governor General Per Brahe founded Finland's first university in Turku in 1640. Sweden's mercantilist policy restricted economic development, however, since all foreign trade was channelled through Stockholm. But mercantilism also favoured mining and the metal industry, as these were expected to increase the nation's prosperity.

In the 17th century, Sweden was a major European iron

producer. Systematic ore prospecting also began in Finland in the 17th century, following a visit by King Gustavus II Adolphus. The first step was the reopening of the Ojamo mine in 1619. Until that point, all ironworks had been founded by the Crown, but now private merchants also became interested in the iron trade. Mining the ore in Finland soon proved unprofitable, however, so iron ore began to be transported from Sweden, mainly from the Utö mine in the Stockholm archipelago. Pig iron was also shipped from Sweden for forging. The King favoured the transportation of iron ore and crude iron to Finland for processing because he did not want to lay waste the Crown forests in Bergslagen.

It was considered viable to found ironworks in Finland, although a high price had to be paid for the Swedish ore. There was an abundance of unharnessed water power and above all vast forest resources for charcoal production. The ironworks had to be located close to a good harbour. The area around the parish of Pohja was densely forested and had rapids for water power as well as a suitable site for a harbour at Pohjankuru. Pohja thus became the centre of the Finnish iron industry. Ironworks were founded in Antskog around 1630, in Billnäs in 1641 and in Fiskars in 1649. Another two ironworks were built close to the parish of Pohja: in Mustio in 1616 and in Fagervik in 1646.



THE FOUNDER OF THE FISKARS IRONWORKS ARRIVES FROM HOLLAND

Peter Thorwöste came to Turku via Stockholm in the 17th century as an agent for an important merchant. A shrewd businessman, he soon became wealthy. In order to expand his ironworks, Jakob Wolle, the then owner of the Antskog works, had borrowed money from Thorwöste. As he proved unable to pay back the loan, the ironworks became Thorwöste's property. Thorwöste gained full proprietorship in 1647 and was given permission to mine iron ore from the Ojamo mine. In 1649, Thorwöste was

also given permission to manufacture cast iron and forged products, with the exception of cannons. The same year, he gained a permit to set up a blast furnace and bar hammer in Fiskars. The ironworks was also granted a 12-year tax exemption.

This is the first page of the document issued in 1649, when Peter Thorwöste was granted privileges permitting him to found the Fiskars blast furnace and bar-iron hammer mill.

Ore for Fiskars was shipped from the Stockholm archipelago

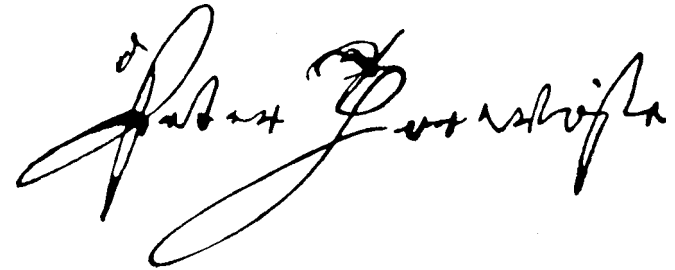
To extract iron ore from the mines, wood was first burnt against the rock face. The heated stone was then rapidly cooled using cold water, and the ore was extracted with bars and hooks. The ore was raised from the shafts either manually or by an ox-drawn pulley and then transported to the ironworks in large chunks.

The Fiskars ironworks used mainly ore from the Utö mines in the outer Stockholm archipelago. Utö was one of Sweden's oldest iron ore mines and is mentioned in King Gustavus Vasa's land register of 1559. Finns, Södermanlanders and Norrlanders had the right to extract ore from the Utö mines. The particular mine used by the Finns was called Finngruva (Finns' mine). From Utö, the ore was transported to Fiskars on ships or lighters owned or rented by the ironworks, first to the port of Pohjankuru and from there, on smaller barges, along the Fiskars River to the ironworks.

Making iron from ore in blast furnaces

Along the Fiskars River, there were three rapids within about one kilometre of each other. The heavy crusher hammers on the eastern bank of the lower rapids were powered by a water-wheel. The chunks of ore were first crushed here, although in Fiskars the ore was sometimes crushed by hand since the hammers could not be used during the dry season.

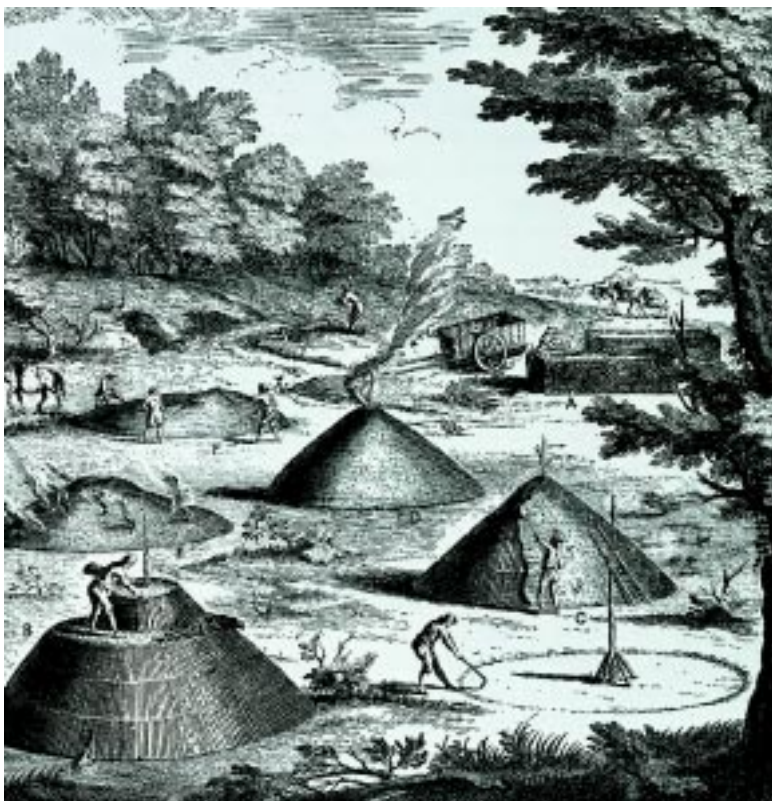
The crushed ore was then taken to the Fiskars blast fur-

A handwritten signature in black ink, reading 'Peter Thorwöste' in a cursive script.

The signature of Peter Thorwöste, the founder of Fiskars.

Water-wheels were used as a source of power for bellows and hammers as early as the 16th century.





The charcoal used in the blast furnaces was made by burning wood in kilns. The picture shows different stages of this work in the 18th century.

nace, built on the western bank of the lower rapids. Before loading into the furnace, it was roasted and ground. It was then lifted onto the furnace 'ring', where the charging took place.

In addition to iron ore, limestone and charcoal were also needed for the blast furnace. The charcoal was produced in kilns. The wood for burning was first stacked in large conical heaps and covered with earth. Once the kiln was fired, a slow burning process took place, resulting in charcoal. The kilns used were often close to the ironworks, as it was easy to transport the necessary wood by river.

An important feature in the structure of all blast furnaces was the central pipe, nearly 10 m high and 2 m wide. This was surrounded by a wall made of stone and landfill, or in some cases, a reinforced wooden frame. Beneath this pipe was a double-layered cavity. The smelting took place in the lower level. The upper level was connected to a flue through which air was blown into the cavity to speed up the heating process. Opposite the flue was a similar aperture for removing the melted pig iron and slag.

The blast furnace was filled with alternate layers of crushed ore, charcoal and slag-forming limestone. As the smelting went on, the pipe was continually refilled, meaning that the blasting process could go on non-stop for a couple of months, or even up to half a year. At regular intervals, however, the smelting had to be interrupted in order to reline the central pipe. If all went well, Fiskars could turn out over 1,000 kg of iron in 24 hours. For example, the furnace fired in November 1675 burnt non-stop until July the next year, producing some 160 tons of crude iron.

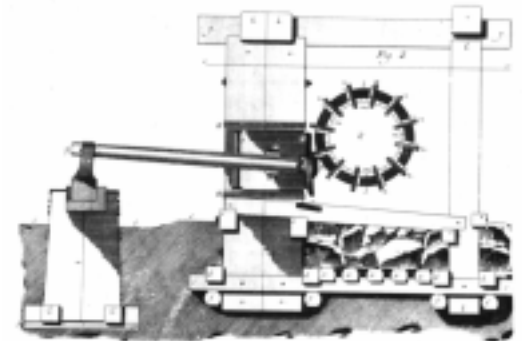


Preparing kindling and fire wood at the rock face, stages in an early method of ore extraction.



Detail of a cross-section of Utö mine, drawn by Johan Tobias Geisler Jr. in 1785.

Diagram of a truss hammer from Swen Rinman's Mekaniken 1789.





Nearly all the ore used at the ironworks was shipped from Sweden in ships such as that shown in this late 17th century drawing.

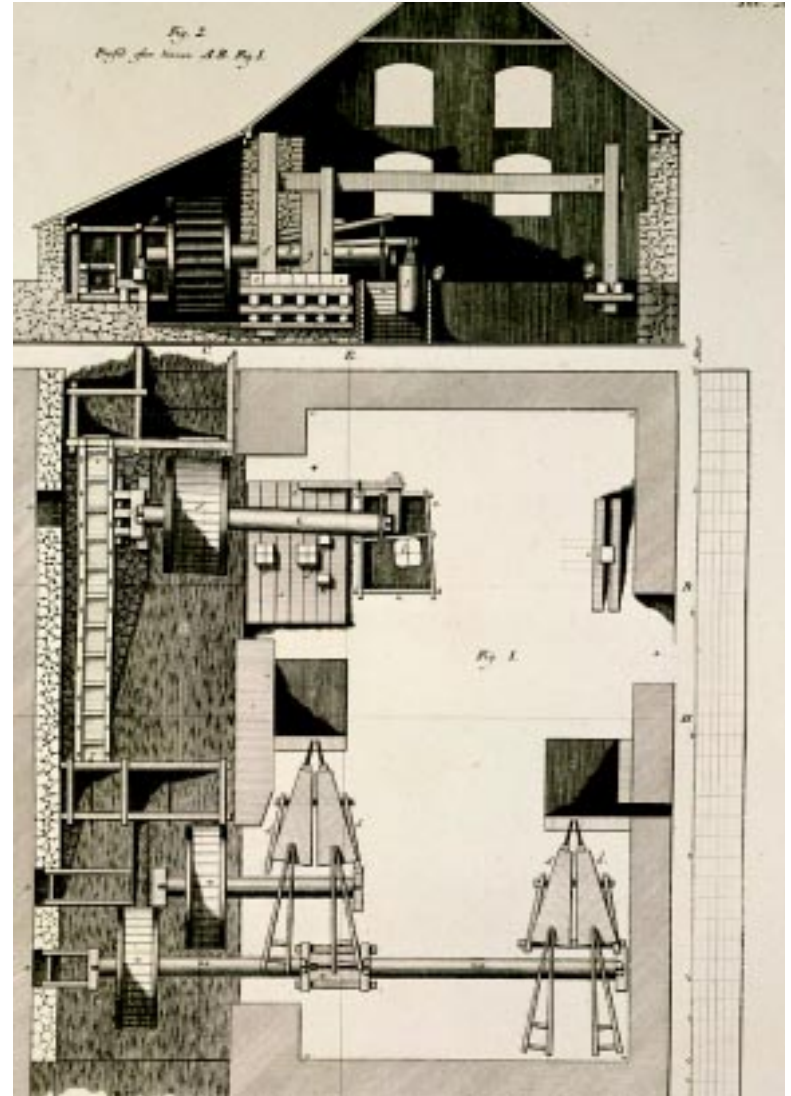
Cross-section of a blast furnace and bellows by Swen Rinman, from 1789.



Workers at a charcoal kiln in the forests of central Finland.

On the right: Cross-section and plan of a truss hammer from Swen Rinman's Mekaniken.

Below: Sketch of the Fiskars blast furnace in 1762 by the furnace supervisor, Bengt Bengtson Qvist. The letters J and F stand for the owners, Jennings and Finlay.





Stockholm in the 1690s. Sweden remained the most important producer of iron in Europe way into the 18th century.

The melted pig iron was cast in moulds close by the furnace. Once the pig iron had set, it was transported to the hammer mill nearby, where the smiths alternately heated and forged the lumps of iron. Finally, the iron was forged into long bars by a bar-iron hammer powered by two furnaces. The slag, a by-product of the smelting, was collected and used for brick-making or simply piled up in huge slag heaps.

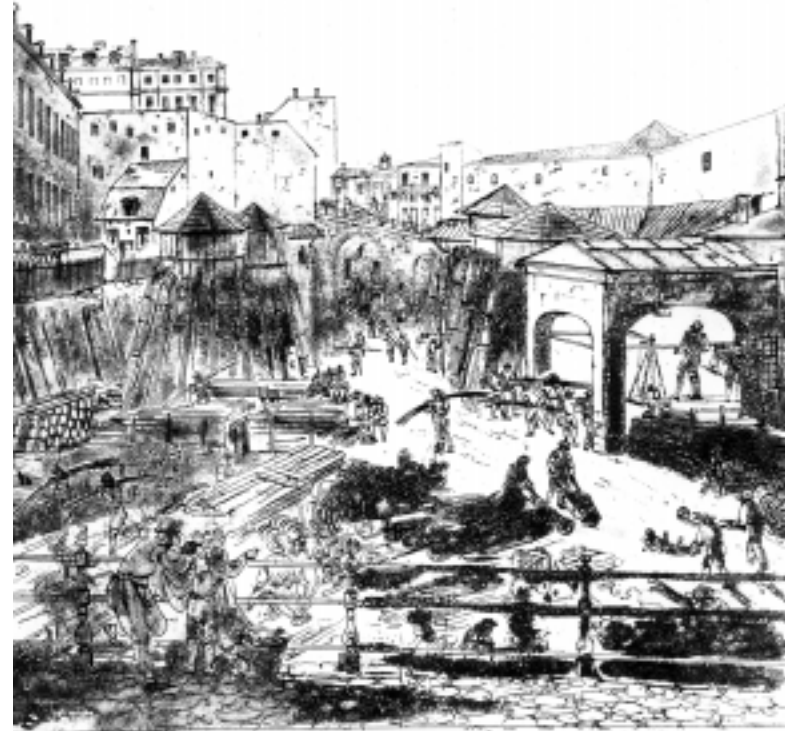
Charcoal was used to fire the blast furnaces and the forges. Large quantities of fuel were required, and ironworks needed a vast amount of forest. Water power from the rapids was used to work the crusher hammers, bar-iron hammers and bellows. Iron-making in blast furnaces and hammer mills remained technically much the same up to the 19th century.

Shipping iron to Stockholm and Tallinn

Fiskars made nails, wire, knives, hoes and reinforced wheels from pig iron. The ironworks also made cast-iron products such as pots and frying pans.

The finished goods were transported by sea via the port of Pohjankuru either to Stockholm or to the provinces along the south of the Gulf of Finland. Some of the vessels were owned by the ironworks, some were chartered. In the 17th century, merchant shipping in the Baltic was otherwise dominated by the Dutch.

Most of Fiskars' bar iron was exported as it was to Sweden, where it was sold at the Iron Market in Stockholm's Old Town. An annual average of 1,5 tons of iron was transported to Tallinn in the 1670s and 1680s. The ships also



The old iron scales in Stockholm Iron Market. All the iron was checked and weighed on the Crown scales before being loaded onto ships and sold.



carried firewood and agricultural produce. Grain and salt were the main products brought back from Tallinn, though the cargo also included scarce luxuries such as wine, tobacco, apples, herring and onions. In 1672, Thorwöste received a shipment comprising a barrel of carrots, a barrel of parsnips, half a barrel of salmon and some cucumbers for his personal consumption.

Fiskars attracted workers from near and afar

Iron-making required skilled labour. In the 1640s, Thorwöste was granted permission to hire specially trained people from abroad, i.e. Sweden, Germany and the Netherlands. Some German blacksmiths and a few Walloons moved to Fiskars at this time. More workers were recruited from the parish of Pohja. In the late 17th and early 18th centuries, the smiths and pot casters had such names as Tysk, Lijhr, Fransos and Jöran Monsieur. In 1656, the Fiskars and Antskog ironworks had a total of 54 workers, including a master builder, a furnace supervisor and sixteen smiths.

Only part of the worker's wages was paid in cash, the bulk being paid in goods which the owner would advance if required. The peasants working at the ironworks were exempt from military service; instead, they did 'daytale', compulsory work without pay. In 1657, the peasants worked 1,5 days a week at the ironworks.

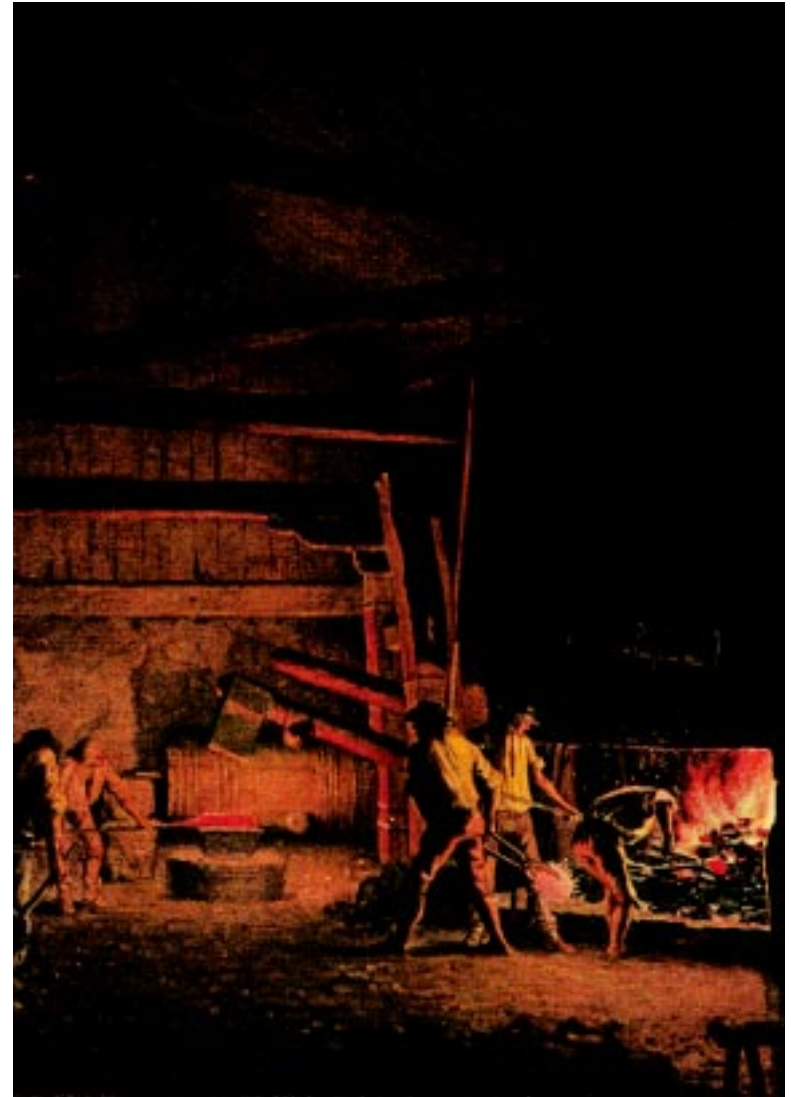
The tenant farmers' daily labour for the ironworks was carefully noted down on pieces of wood.

Due to its high charcoal content, crude iron was brittle. Alternate heating and forging were used to remove all surplus charcoal and turn the iron into steel.

The 18th century: wars and shortages with contrasting technological progress

By the 18th century Sweden-Finland was impoverished and disunited. One third of Finland's half a million inhabitants had died during the famine years of 1696-1697. The Great Northern War, during which the Russians systematically ravaged the Finnish coast, broke out in 1700. In 1712 - during the Great Northern War and on the eve of the Great Wrath - the number of workers at Fiskars and Antskog totalled only 25. Bollsta in Pohja was one of the centres of Russian civil and military administration during the Great Wrath, and Russians were active in the area. Many Fiskars workers lost their lives during the hostilities. When peace was made at Uusikaupunki in 1721, Sweden-Finland's status as a great power collapsed. St Petersburg, founded in 1703 by Peter the Great, became a rapidly growing international centre and the capital city of Russia, the new great power on the Baltic Sea.

After the Great Northern War, the Finns had no money to revive the ironworks. Wealthy Swedes from Stockholm invested money in Finnish ironworks, and a merchant named John Montgomerie bought Fiskars in 1731, recruiting more workers from abroad. In 1734, the Fiskars and Antskog ironworks employed nine smiths, two master builders, two fine craftsmen, three sawyers, 32 mill





On the left: Cross-section of Orijärvi copper mine in 1826. Fiskars already owned three quarters of the estate in 1740.

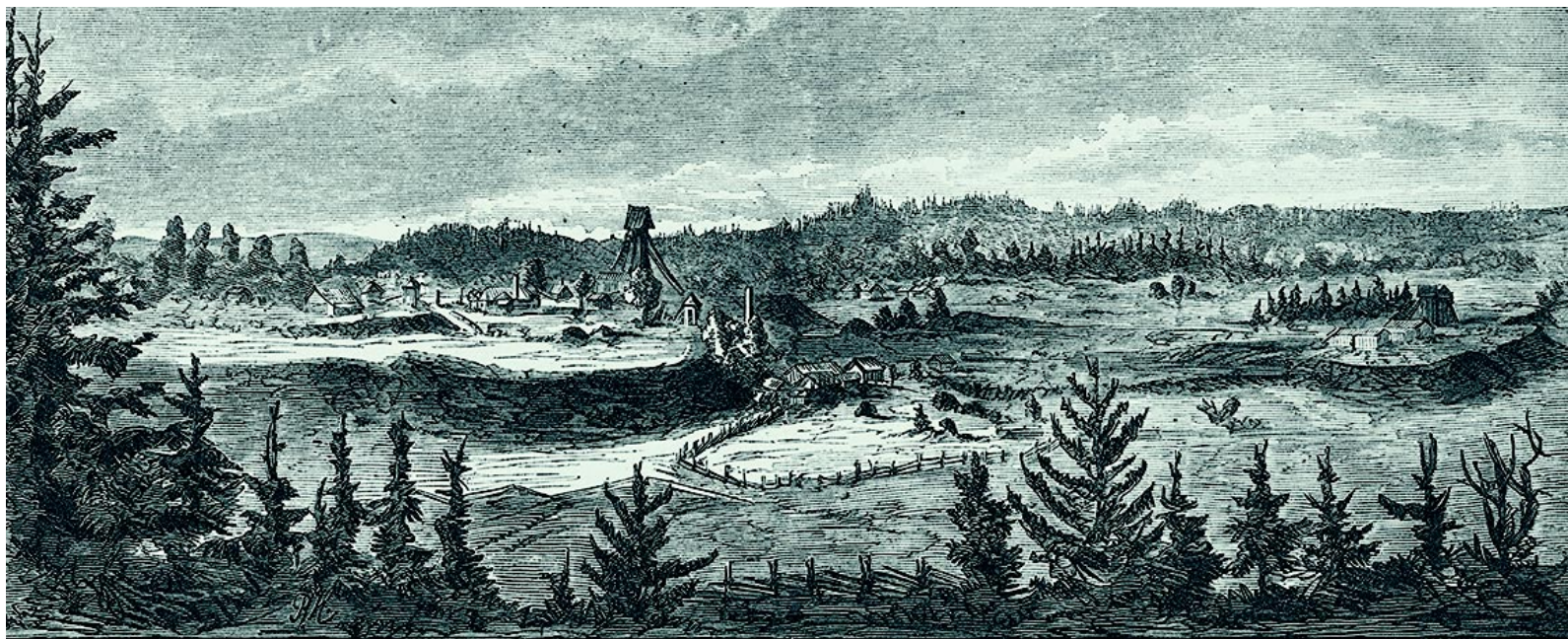
The silver cup given by the Royal Mines Authority to Anders Holmberg, who found the Orijärvi copper mine in 1758.

Next page: Orijärvi copper mine and surroundings in the 1870s.



workers, four charcoal burners, one cabin boy and three boatmen, with names such as Clas Pijra, Michel Gilliam, Noe Tillman, Hinrich Pijra, Anders Erman, Jean Pouse, Gottfrid Pouse and Jean Dardanell. In 1740, the population of Fiskars was 115, and the ironworks mill became the most popular in the parish.

In 1748, work began on building the Viapori (now Suomenlinna) island fortress off Helsinki, and this boosted economic and cultural activity on the southern coast of Finland. Sweden-Finland's merchant shipping increased on the Baltic and elsewhere. The first Finnish merchant vessel sailed from Turku to Spain in 1732. In Europe, it was the Age of the Enlightenment. The Industrial Revolution was just beginning in Britain. The invention of the steam engine opened up totally new vistas for supplying the power needed for industry. Coke was replacing charcoal in iron-making, and in England iron-making was



being revolutionized in both quantity and quality, partly providing the economic foundation for the British Empire.

In the 1750s, Fiskars acquired new owners from Sweden, Finlay and Jennings. Jennings soon gave up his share, but Finlay continued and started refining copper, too, since copper ore had been discovered in the Orijärvi area of Kisko. The Fiskars coppersmiths were still forging skillfully crafted utensils in the 19th century, despite the fact that by then the mine only yielded small quantities of ore.

Finlay's ownership of the ironworks terminated in bankruptcy in 1771. Following a brief hiatus, a merchant from Stockholm, Bengt Magnus Björkman, purchased both the Fiskars and the Antskog ironworks. Björkman came from an old family of ironworks owners, and owned a large number of ironworks and farms in Sweden. Björkman himself did not move to Finland.



AUTONOMY UNDER RUSSIA 1809-1917: Finland becomes a distinct nation

1789 marked the beginning of the French Revolution. It was followed by Napoleon Bonaparte's rise to power in France. The autocratic King Gustavus III of Sweden was assassinated in 1792 and succeeded by Gustavus IV Adolphus, who opposed Napoleon's policies. In 1808, war broke out again between Russia and Sweden, with the consequence that in 1809 Finland was separated from Sweden in the Peace of Hamina. Finland was ceded to the Russian Empire and became an autonomous Grand Duchy. At the Diet of Porvoo in 1809, Tsar Alexander I granted Finland the status of a distinct nation.

When Finland became part of the Russian Empire, foreign owners of land and industry were required to move to Finland. Bengt Magnus Björkman was 70 years old at the time and did not wish to change his nationality. His eldest son,

Bengt Ludvig Björkman, then in his twenties, was given the task of managing the Fiskars, Antskog and Koski ironworks. When he moved to Finland, Fiskars became the centre of his ironworks company, and the young owner had new headquarters built there.

In 1812, the national capital was moved from Turku to Helsinki, and following the Great Fire of Turku in 1827, the national university also moved to Helsinki. All this was part of the Tsar's plan to shift the focal point of Finnish politics and culture closer to St Petersburg. Politically, Finland was governed by Russia, but in economy and culture the country had a wide degree of autonomy.

In 1865, Finland acquired its own monetary unit, the Finnish mark.

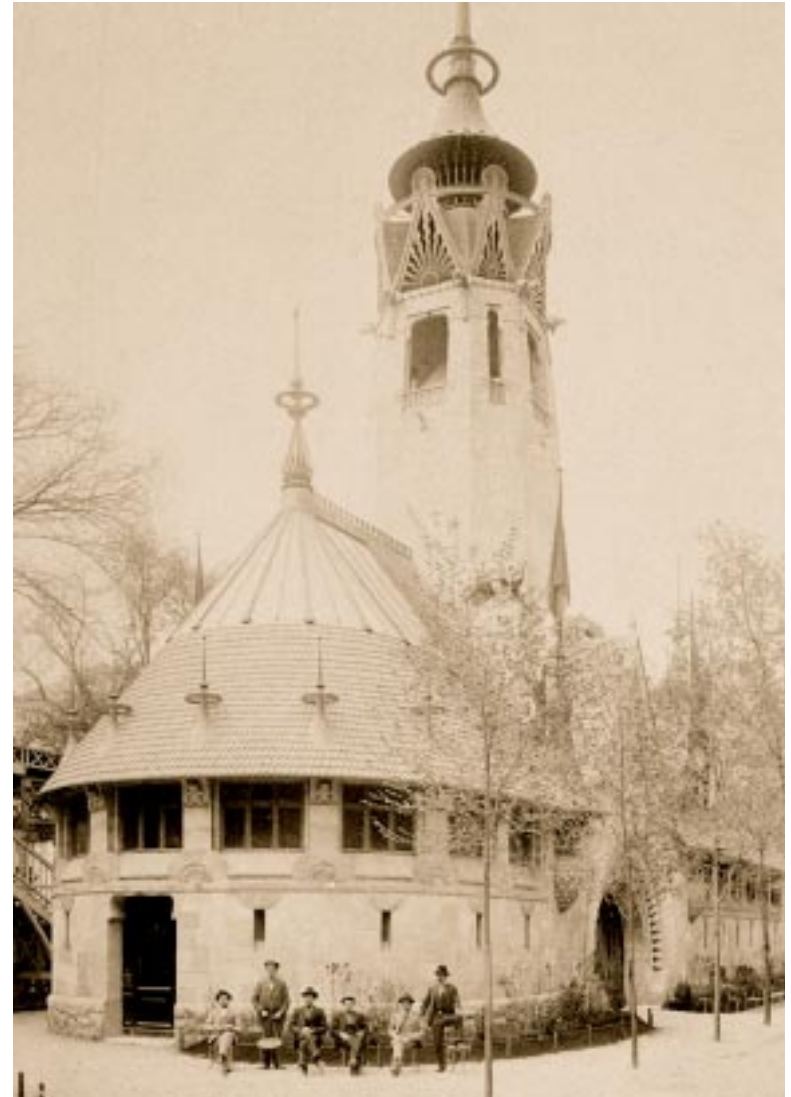


The Porvoo Diet of 1809. Tsar Alexander I in the middle.



An example of Finnish resistance to Russification. The painting 'Attack' shows the 'Maid of Finland' (Suomen Neito) defending the Finnish law against attack from the Russian double eagle. By Edvard Isto, 1899.

The Finnish pavilion at the Paris World Fair in 1900. For the first time Finland participated as a nation, with its own pavilion.





JOHN JACOB JULIN'S TIME: inventions, enlightenment, reform

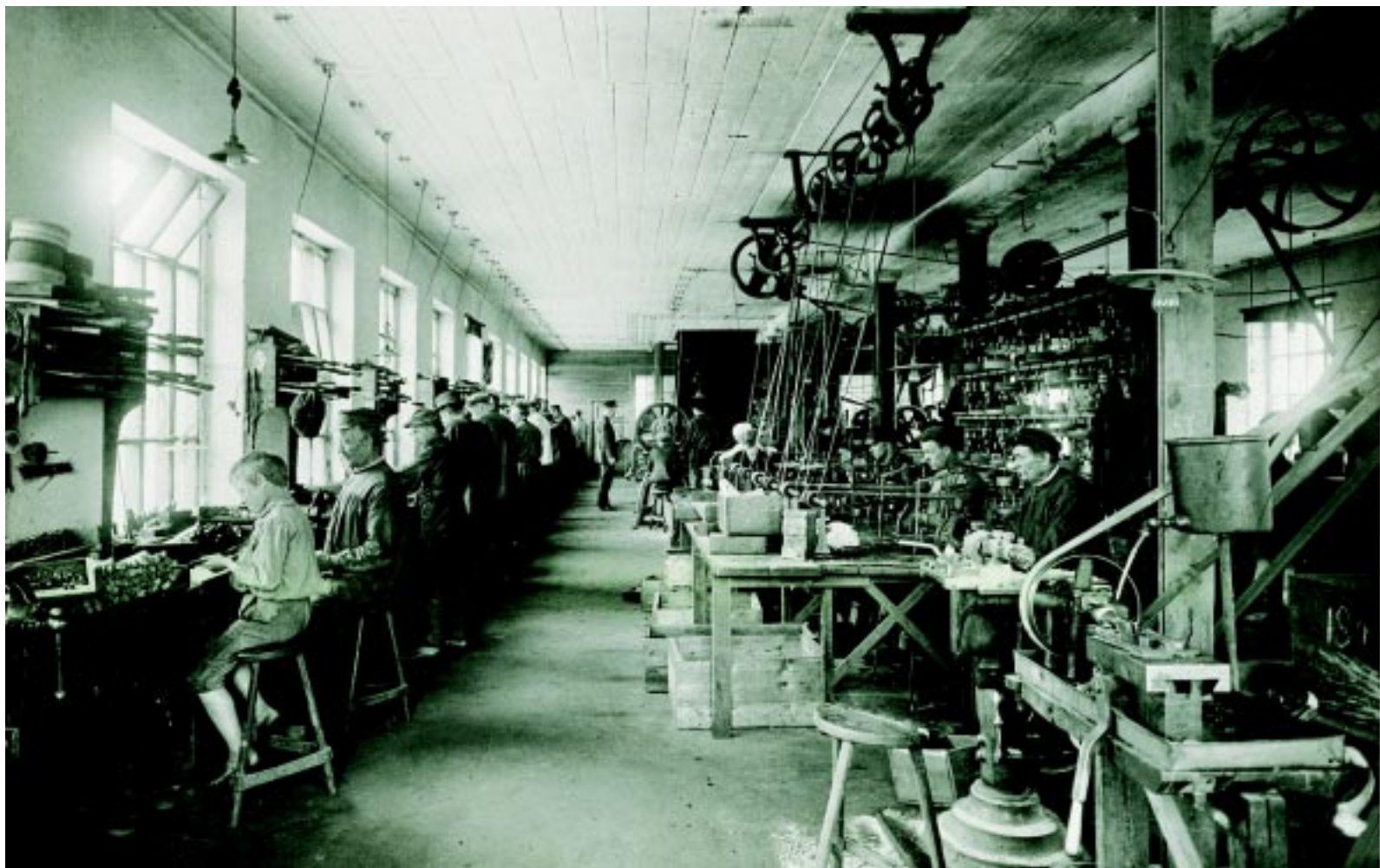
Fluctuating copper prices, uncertainty about the availability of iron ore and problems with old trading relations, combined with the owner's predilection for a life of luxury, culminated in a changeover in ownership in 1822, when John Jacob Julin, a pharmacist from Turku, bought the company. In fact, he bought a copperworks rather than an ironworks, for the blast furnace had closed down in 1802 and Fiskars had ceased to be a primary producer of iron. The most important change that took place in Julin's time was a shift in emphasis towards iron refining.

John Julin's time proved to be one of the most important periods in the history of the ironworks. During this time, industrial and economic development continued to acce-

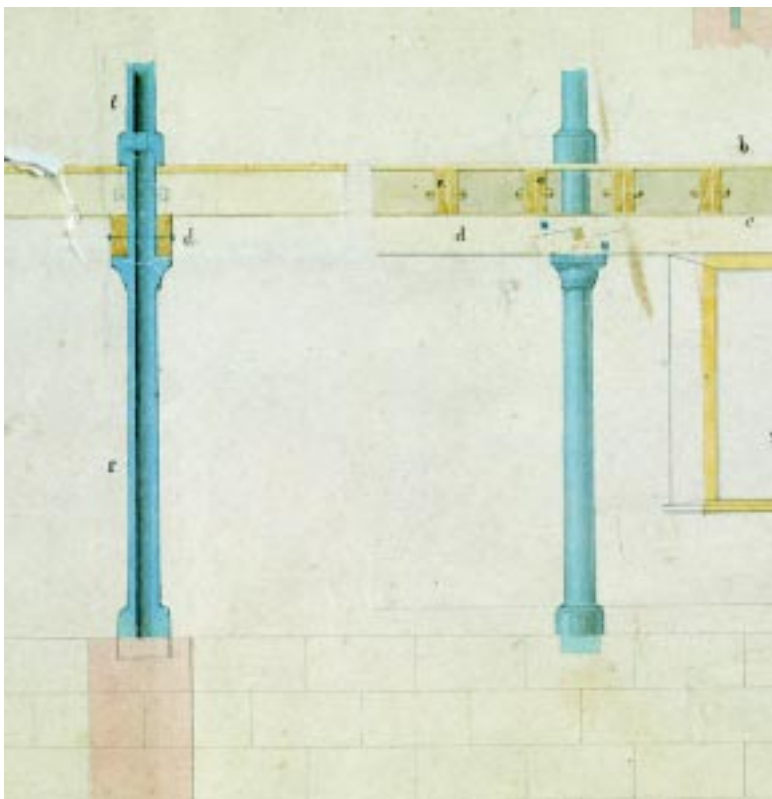
lerate in Europe. Regular railway services began in Britain and the USA in 1830. Finland's first steam ship - the Ilmarinen - was completed in 1833. There was a national awakening: the Kalevala, compiled by Elias Lönnrot, was published in 1835 and The Tales of Ensign Ståhl by J. L. Runeberg in 1848.

John Julin had a school built in Fiskars in 1826, and instruction according to the Bell-Lancaster principles

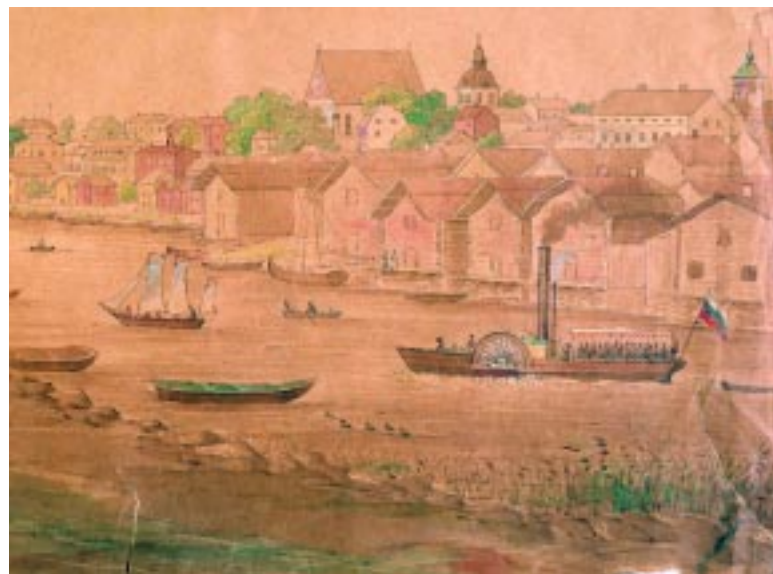
The eldest son of Johan and Albertina Julin was born on August 5, 1787. He was baptized Johan Jacob Julin but always used the name John. He was ennobled in 1849, and his time proved one of the most important stages in the history of the ironworks. Oil painting by J.E. Lindh.



Fine forgers began their training at an early age. Interior at the Fiskars cutlery mill early this century.

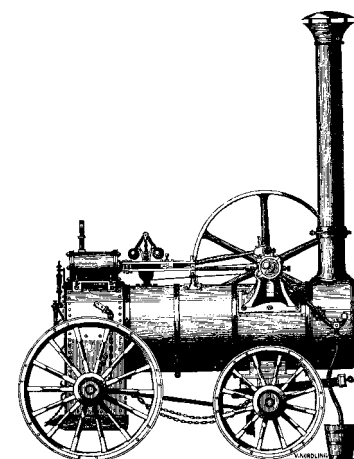


Sketch of the cast-iron columns supplied by Fiskars for the Finlayson cotton mill.



The steamship Majava ('the Beaver') plied the route between Helsinki and Porvoo. The ship and its engine were made at the Fiskars machine workshop, and the ship was assembled on the ice off Pohjankuru in 1851. As the ice melted, launching the ship was easy enough.

Fiskars founded Finland's first machine workshop in 1837. Steam-powered vehicles were an important sphere of production. Illustrations from catalogues dating from 1864 to 1867.



started in 1833. The teaching method was modern: the more proficient pupils helped to instruct the less accomplished. There was school every day of the week so that all children, even those who were working, could receive an education. In the 1840s, the weekday school had 45 pupils and the Sunday school 35.

Julin was also a pioneer in agriculture and forestry. He turned Fiskars into a model farm, organizing agricultural shows at which the best livestock breeders won awards and new implements were introduced. It was only now that horses began to replace oxen as beasts of burden in Fiskars. In summer, the tenant farmers of the manor and the day labourers would work from four in the morning to eight in the evening, with two one-hour breaks for meals. Julin introduced crop rotation in the 1830s. Livestock breeding was not given up until 1970, at which point Fiskars still had 104 head of cattle, descended from the Ayrshire herd of Julin's time.

Julin travelled a lot in Sweden and Britain, gathering information on fine iron forging among other things. Finland's first fine forging workshop was built at Fiskars in the early 1830s. It employed 17 people and comprised a coarse and fine forging mill, a filing workshop and a coppersmith's workshop. Edward Hill, an Englishman, was the workshop supervisor, and he brought skilled smiths with him from England. Knives, forks and scissors were then produced at the workshop.

The work of the fine forgers was an art and the training usually took eight years. The fine forgers guarded their professional secrets carefully. They even had their own lockers in the workshop, where they locked up their un-

finished work. In the 1880s, working hours began at 5.30 a.m. There was a 30-minute breakfast break at 8, and a 1-hour lunch break at 1 p.m., after which work continued uninterruptedly till 7.15 p.m., with only a brief coffee break in the afternoon. On Saturdays, they stopped work at 5.30 p.m. In the office, work started at 7 a.m. and ended at 7 p.m.

Finland's first machine workshop was established at Fiskars in 1837, with mechanic David Cowie and designer Anders Ericsson from Sweden as shareholders. Orders came pouring in. In 1838, the workshop produced the first Finnish steamship engine, for the SS Helsingfors. In winter 1851, the SS Majava was built on the ice in Pohjankuru harbour. The finished components were transported from Fiskars by horse and sleigh to the building site where the ship was assembled. When the ice melted in spring, the vessel was launched by itself. The machine workshop also produced the iron gate and bridge structures for the Saimaa Canal, blowers and warm air generators. From the 1850s on, agricultural equipment such as ploughs, chaff rakes and sowing machinery was made.

In 1836, a foundry with two cupola furnaces was completed on the upper Fiskars rapids. Its products were primarily used by the ironworks, but some pots, frying pans, stoves and other household utensils were made for sale, too. The Fiskars foundry also made a delivery that was strikingly unusual in Finland at that time: 90 cast-iron columns and a large water-wheel for the Finlayson cotton mill built in Tampere in 1837. The six-storey brick building comprised five large factory halls, each with two rows of nine columns. The six-storey brickwork building made a great impact on the Tampere townscape.



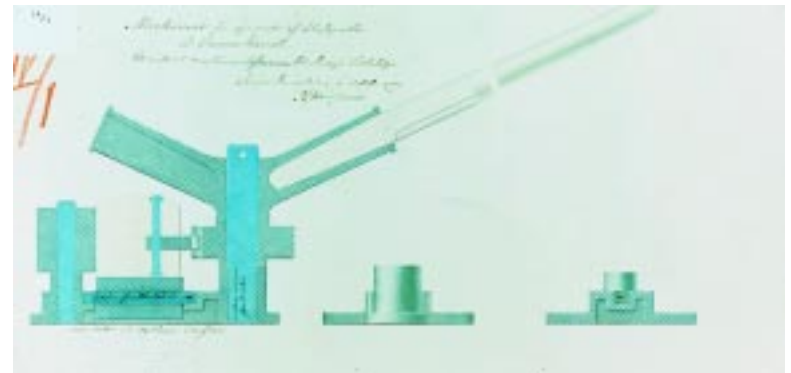
The columns were first ordered from Sweden. When the first part of the shipment - the thickest columns for the ground-floor hall - arrived in Turku, nobody was willing to transport them by cart to Tampere. Each column weighed 550 kilos, and a special vehicle had to be built for them. When the columns arrived in Tampere, however, they were found to be defective and of poor quality. The order was therefore cancelled. The work had to be finished in a hurry, and the commission was given to the Fiskars foundry. The factory carpenters fashioned the moulds out of wood, and eighteen columns were cast in a mere week. The remaining 72 were finished in three months, in September 1836. The cast-iron columns still stand today.

Fiskars was also commissioned to make a water-wheel for the factory. This took nearly six months, and the solid iron wheel, with a diameter of more than eight metres, was considered something of a miracle at the time. There was nothing like it in all of Europe. People gathered to watch as the parts of the wheel were transported to Tampere. As many as ten horses were needed to haul the axle, which was the heaviest part. The wheel started working on 4 October 1837.



Opposite page: When it was completed in 1837, the Tampere cotton mill, with its six floors, was the largest industrial facility in Finland and assumed a prominent position in the townscape.

On the right: From 1846 onwards, the builders of the Saimaa Canal became one of Fiskars' major customers. At first, Fiskars supplied tools, and later on also parts of the canal locks and roll-ing bridges.





The limited liability company Fiskars Aktiebolag was founded in 1883. Share certificate number 377, subscribed for by Albert von Julin.

Opposite page: Fiskars machinery workshop's catalogue from 1860s.

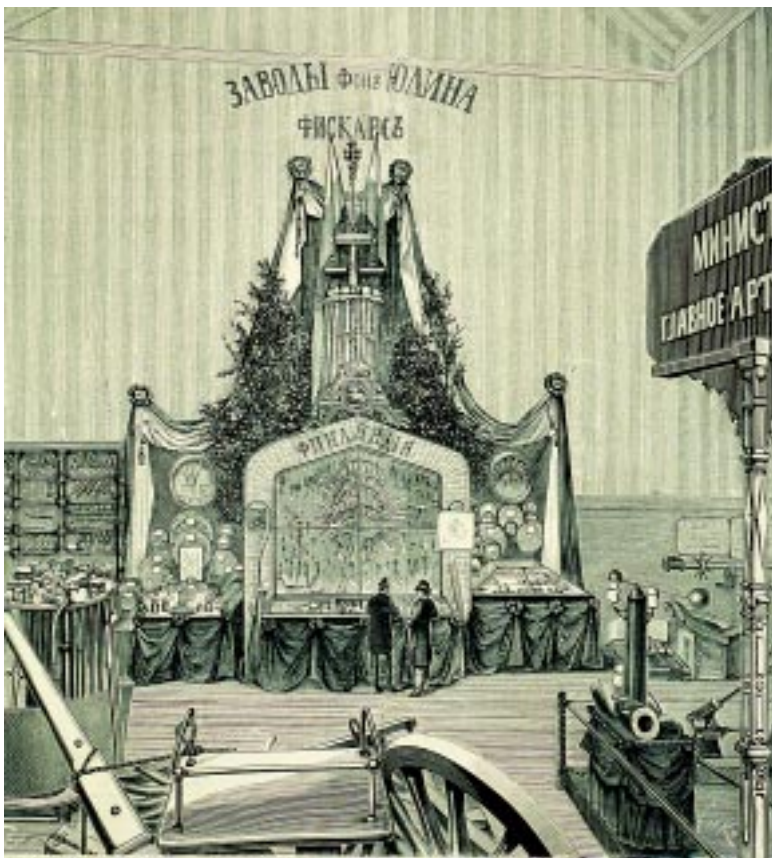
Late 1800s: Fiskars becomes a joint stock company of worldwide renown

In 1865 Finland acquired its own currency, the mark. The years of severe famine in 1867-1868 had put a strain on the whole country. In the 1870s, industrialization and urbanization accelerated, boosted by the full business freedom gradually granted between 1858 and 1879. The first electrically powered bamboo fibre filament lamp was lit in 1852. The telephone was invented in 1875 and the precursors of the modern internal combustion engine were introduced in 1886.

Fiskars has played an important role in the development of Finnish agriculture. Different ploughs were imported for experiments with ploughing, and a plough suitable for the Finnish soil was developed on this basis. Ploughs became the works' most important line of products. At the 1860 St Petersburg exhibition, Fiskars' wooden plough won an award. By 1891 the works was producing 11 different ploughs, and by the end of the century the range had been extended to 40 models. In all, over a million horse-drawn ploughs were made.

Fiskars was also a pioneer in occupational health care. The mill had its own physician as early as 1860, and since then there has always been a doctor in the company. In 1892, the mill opened a hospital with ten beds on the eastern shore of Älsviken bay.

After the death of J.J.Julin in 1853, the works was managed by a guardianship administration, the 'Ironworks Company John von Julin'. Power gradually became consolidated in the hands of Emil Lindsay von Julin, however, and



The well-appointed Fiskars stand at an industrial exhibition in St Petersburg, 1870. The recently completed Helsinki-St Petersburg railway line opened up excellent prospects for trade between Finland and Russia.

the Fiskars limited liability company was founded in 1883. Operations were profitable until the turn of the century, partly thanks to exports to Russia. When the Åminnefors works was taken over by Fiskars the company began to use a Siemens-Martin furnace built in 1887, the third of its kind in Finland. In the 1890s, 45% of the total output was exported. In 1890, Fiskars bought the Åminnefors rolling mill in a bankruptcy sale. In 1891, two of the rolling mill's four puddling furnaces were fired by charcoal and two by coal. There was a vertical steam boiler beside each furnace working three steam hammers. A 40 hp turbine installed in 1886 powered the coarse and the fine rollers. The rolling mill comprised two welding furnaces and a brick-built outdoor kiln for drying wood.

In 1891, a narrow-gauge railway was built between Fiskars and the harbour at Pohjankuru to simplify transportation. In 1894, 250 workers were employed at the ironworks, and the entire ironworks community comprised approximately 1,050 people. Between 1900 and 1905 profitability dropped, but an upsurge in the general economic situation saved the company. In 1906, Finland acquired a new unicameral Parliament, elected by equal, universal suffrage. The old class society was thus dismantled. In 1914, the First World War broke out.



INDEPENDENCE: expansion and modernization

At first, the First World War had little impact on Finland. In the metal industry, the situation even improved, with growing orders from the Russian army. In 1917, however, political developments in the Russian Empire led to the execution of Tsar Nicholas II and the seizure of power by the Bolsheviks. In December 1917, Finland issued its Declaration of Independence: the next year, the country drifted into a civil war that confirmed its independence as a nation. The upheavals of these years caused the metal industry to lose its extensive Russian market. Efforts were made to compensate for this by winning a bigger market share in Western Europe and the Baltic states, which were now independent.

In 1920, Finland was accepted as a member of the League

of Nations, which in 1921 decided that Åland was to be governed by Finland. An act restricting daily working hours to eight was passed in 1917, and an act on compulsory education followed in 1921.

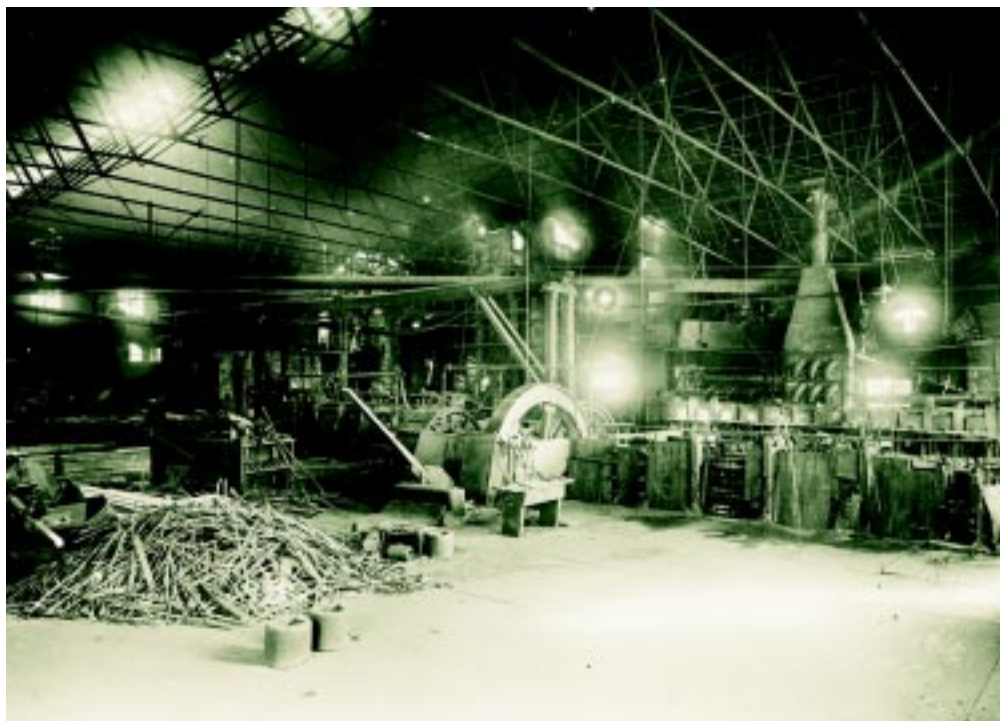
The time following the First World War was a period of vigorous expansion and modernization for Fiskars. Productivity was improved by developing better steel refining methods and by renovating the Äminnefors rolling mill. The product range was expanded, and Finland's first metal spring factory was established. The company bought the Inha ironworks in Ähtäri, a majority holding in Salon

The finishing touches to Orijärvi puukko knives were always made by hand. This model had been in production since the beginning of the century.



The product range was widened by measures such as the founding of a spring factory in Finland. Fiskars supplied suspension for many Scandinavian makes of lorry. The picture shows spring making in the 1940s in the factory at Pohjankuru.

Interior of the Fiskars rolling mill.



Sähkö- ja Konetehdas Oy, Billnäs Bruks Ab, Oy Ferraria Ab with its plants in Jokioinen and Loimaa and in Pero on the Karelian Isthmus, and Finska Bult- och Spikfabrik Ab. The 1929 stock exchange crash had an impact on the Finnish economy which lasted till the mid-1930s. The Depression put a stop to Fiskars' growing investments. A new upward trend began thereafter, although this was interrupted by the Second World War, postponing the planned transformation of the small-scale corporate structure into something better suited to mass production until the post-war period.

After the war: evolving into a strong international corporation

In the second half of the 20th century, engineering was forced to adapt to a totally new state of affairs. The Winter War and Continuation War – the two halves of Finland's part in the Second World War – had taken toll of Finland, both in human and in economic terms. Putting the economy on a war footing had virtually wiped out imports and exports. To take an example, production for the domestic market did not climb back to the prewar level until 1948. The Paris Peace Treaty and the Friendship and Cooperation Treaty signed with the Soviet Union in the same year were the foundation of a new foreign policy for Finland. Finland established its position in the world, first by joining the Nordic Council in 1955 and the United Nations a year later. Finland participated in European convergence, initially by associate membership of EFTA in the 1960s and finally, in 1995, by joining the European Union; in 1999 it was among the first EU member states to join the economic and monetary union EMU in the introduction of the common currency. With its financial market thus liberalized, Finland stands ready for the era of globalization.

The postwar reparations demanded by the Soviet Union meant plenty of orders for the metal industry, while the forest industry reigned supreme in exports to the West. A far-reaching change took place in 1956, when Urho Kekkonen's 26-year presidency began. It was during that same year that Finland got back the military base in Porkkala that had been in Soviet hands since the end of the war. In spring 1956, a general strike shook every field of industry and led Finland into a period, lasting until the



The manufacture of the cutlery known in every home continued until the 1970s.



Iron-casting in progress at Fiskars' Äminnefors works. The company's original business interests, steel production, were sold in the 1960s to Ovako as part of a restructuring.

early 1990s, that was characterized by inflation and repeated devaluations. The metal industry drifted into a strike of its own in 1971, when Fiskars' plants were closed for seven weeks.

In these external circumstances, the engineering industry was obliged to reorient itself. New exports and design at first yielded some impressive successes, although the overall financial importance of these was not very great. Many companies fragmented themselves in an attempt to diversify.

Fiskars was among those that embarked on a policy of takeovers in the early 1960s, a policy that turned out to be ill-considered. Gradually the corporation's profits were eroded and it was forced into action on stabilization and restructuring. In those troubled years the company's real property turned out to be a precious resource. The sale of some land in the Tammisaari islands gave the company a breathing space that was vital for Fiskars to be able to transform itself.

It was partly because of these very problems that Fiskars embarked as early as 1969 on the kind of radical industrial restructuring that became commonplace elsewhere in the 1990s. The chairman of the board of directors, Jacob von Julin, had the foresight to relinquish the



Fiskars was one of the first companies in Europe to make microwave ovens in 1965-73.

In the 1960s, plastic was a promising material of tomorrow. The shell of the Fiskars liquidizer was plastic (in production 1965-70) and the tableware was made in the 1962-73 period. The classic chair of steel wire, designed by the American Harry Bertoia, was made for Artek 1962-72.



Fiskars' new production plants in Finland were built at Billnäs, where land for building and labour were more freely available. At the turn of the millennium, the scissors plant is being expanded to double the size.

company's original business, steel-making, to Ovako Oy Ab. This rationalization secured Fiskars' supplies of raw materials for many years to come. The other advantageous terms of the deal boosted the company's profits. Aminnefors also did well under Ovako's ownership.

Under the present chairman of the board, former company president Göran J. Ehrnrooth, Fiskars has totally reoriented itself. Unlike the practice in the 1960s, takeovers are based on core competences. The focus on the world's strongest economy, the USA, has proved itself a winning choice. It provided a foundation for internationalization, a growing market and valuable experience.

Fiskars' expansion began with the establishment of its own scissors plant in the USA in 1977. This was followed by a number of consumer-centred takeovers along the same lines, including the acquisition of Wallace Manufacturing Co, Gerber Legendary Blades and Coltellerie Montana.

Almost invisibly, the seeds of future success had been sown in those troubled years. Scissors were first mentioned in Fiskars' annual report in 1971. Innovations had been made in working methods and in the output of the cutlery mill, making it possible to manufacture totally new types of scissors. Gradually scissors became a profitable field of production that appealed direct to the consumer and conquered markets around the world. Electronics also grew into an important part of Fiskars' business. Fiskars acquired ownership of the Televa power electronics interests in Finland and Deltec Power Systems in the USA. At its peak, electronics accounted for about a quarter of the company's sales. This line of business was successfully relinquished in the 1996-97 period.

The company strategy was attuned to fast-track product development and marketing of consumer goods, to investment in industrial companies, and to the management of real estate in Finland.

Fiskars is thus leaving the 20th century as a strong, international company, with two thirds of its workforce and over 90% of its net sales outside Finland. The company exceeds the boldest visions of its founder, who is immortalized in the portraits in the Stone House. Fiskars is a company with both roots and wings. Its roots have stayed firmly embedded in the soil of its old ironworks community and western Uusimaa Province in Finland, but its wings have shown themselves to be strong enough to support business throughout the world. Fiskars can look to the third millennium with confidence.



Fiskars scissors over two centuries

1. *Rubber scissors, 1924*
2. *Cigarette scissors, 1897*
3. *Sewing scissors, 1897*
4. *Plaster scissors, 1914*
5. *Paper scissors, 1897*
6. *Scissors, "Classic", from 1967*
7. *Paper scissors, 1924*
8. *Tailor's scissors, 1880*
9. *Lamp scissors, 1880*
10. *Sack scissors, 1897*
11. *Tailor's scissors, 1880*
12. *Ladies scissors*
13. *Linen scissors, 1897*
14. *General Purpose scissors, 1960*
15. *Shop scissors*
16. *Tailor's scissors*





Different types of cutlery by Fiskars

1. *Butter knife, ivory, 1897*
2. *Cutlery, "Hill", ivory, 1840-1862*
3. *Cutlery, ivory, 1880*
4. *Cutlery, nylon, stainless steel, "Triennale", Bertel Gardberg, 1957*
5. *Cutlery, 1924*
6. *Cutlery, "Senator", silver cap, ebony, 1897*
7. *Cutlery, coconut, 1897*
8. *Cutlery, ebony, 1897*
9. *Cutlery, ebony, 1897*
10. *Cutlery, ebony, 1897*





Kitchen utensils made by Fiskars

1. *Skin dressing tool*, 1934
2. *Black radish knife*, 1897
3. *Serving knife and fork*, ebony, 1897
4. *Cheese drill*, 1924
5. *Butter drill*, 1897
6. *Bread saw*, 1897
7. *Chisel knife*, 1956
8. *Bookbinding knife*, 1897
9. *Crayfish knife*, 1956
10. *Sardine knife*, ebony, 1897
11. *French kitchen knife*, 1880
12. *Tobacco knife*, 1897
13. *Meat axe*, 1897
14. *Skin dressing knife*, 1920's
15. *Sugar knife*, 1880
16. *French kitchen knife*, 1897





Hunting knives and claspknives made by Fiskars

1. *Marking iron, 1924*
2. *Garden knife, 1924*
3. *Drawing pencil, ebony, 1897*
4. *Scratching knife, ebony, 1897*
5. *Hunting knife, mother-of-pearl, 1897*
6. *Sailor's pocket knife, 1924*
- 7.-8. *Pocket knives, ivory, 1938*
9. *Pocket knife, mother-of-pearl, 1938*
10. *Pocket knife, horn, 1938*
11. *Razor, 1924*
12. *Hunting knife, buffalo horn, 1924*
- 13.-14. *Pen knives, tortoiseshell, 1880*





Selection of Fiskars puukko knives

1-5. Puukko knives, 1880-1897

6. Seam-picker, 1897

7. Flax knife, 1897

8-15. Puukko knives, 1880-1897





Fiskars brass candlesticks and pestles and mortars

Upper row, left:

*Mortar, brass no 4
and no 1/Hill Candlestick,
brass,
no 11/Hill; no 3,
no 6/Hill, no 6, 1840-1862
Mortar, cast iron, 1924*

Lower row, left;

*Candlestick, brass,
no 1/Hill, no 14,
no 2/Hill, no 3/Hill,
no 10/Hill, 1840-1862*





THE IRONWORKS AND ITS SURROUNDINGS

The present configuration of the Fiskars ironworks has been moulded over four centuries. None of the 17th century houses or factories remain, but a few structural components can be found in the foundations of some buildings. The present roadways, however, took shape in the 17th and early 18th century.

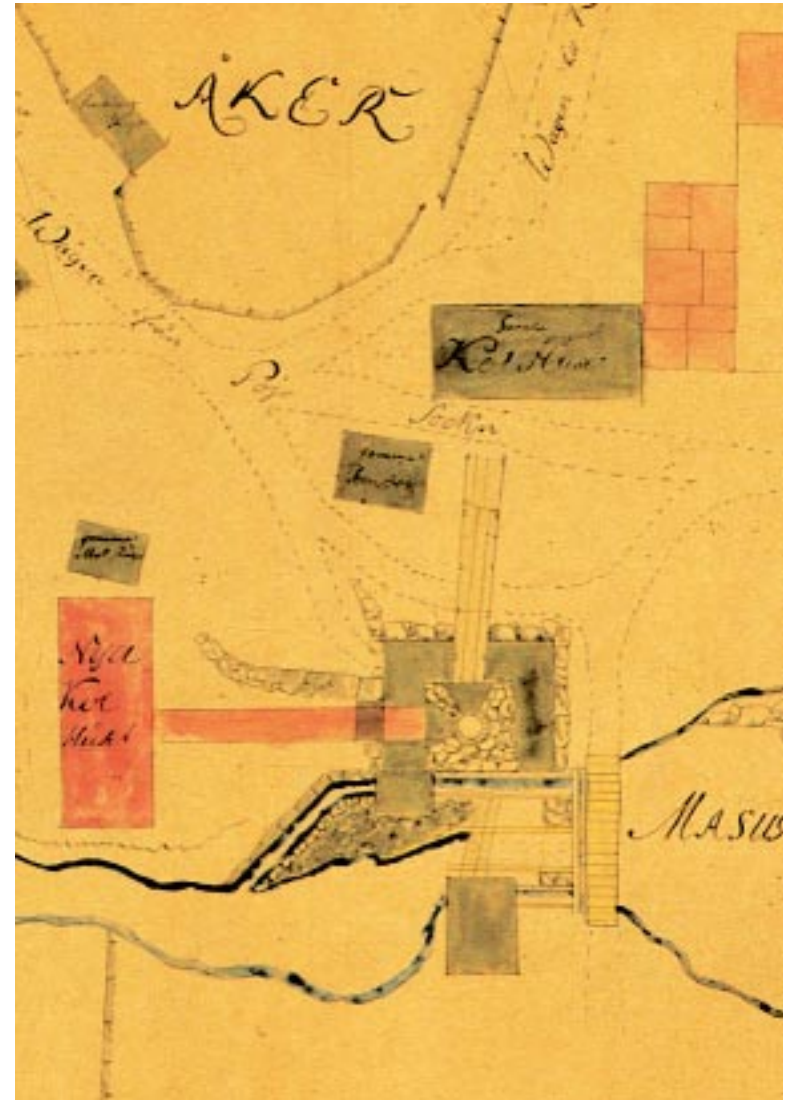
The ironworks was built on the Fiskars River, which flows through a valley that extends from Lake Degersjö to Pohja Bay. The upper rapids are near the lake, and there are a millrace and more rapids one kilometre downstream. Ever since the 17th century, mills specializing in refining iron and copper have been built on these three rapids. Roughly midway between the rapids, a smaller tributary, the

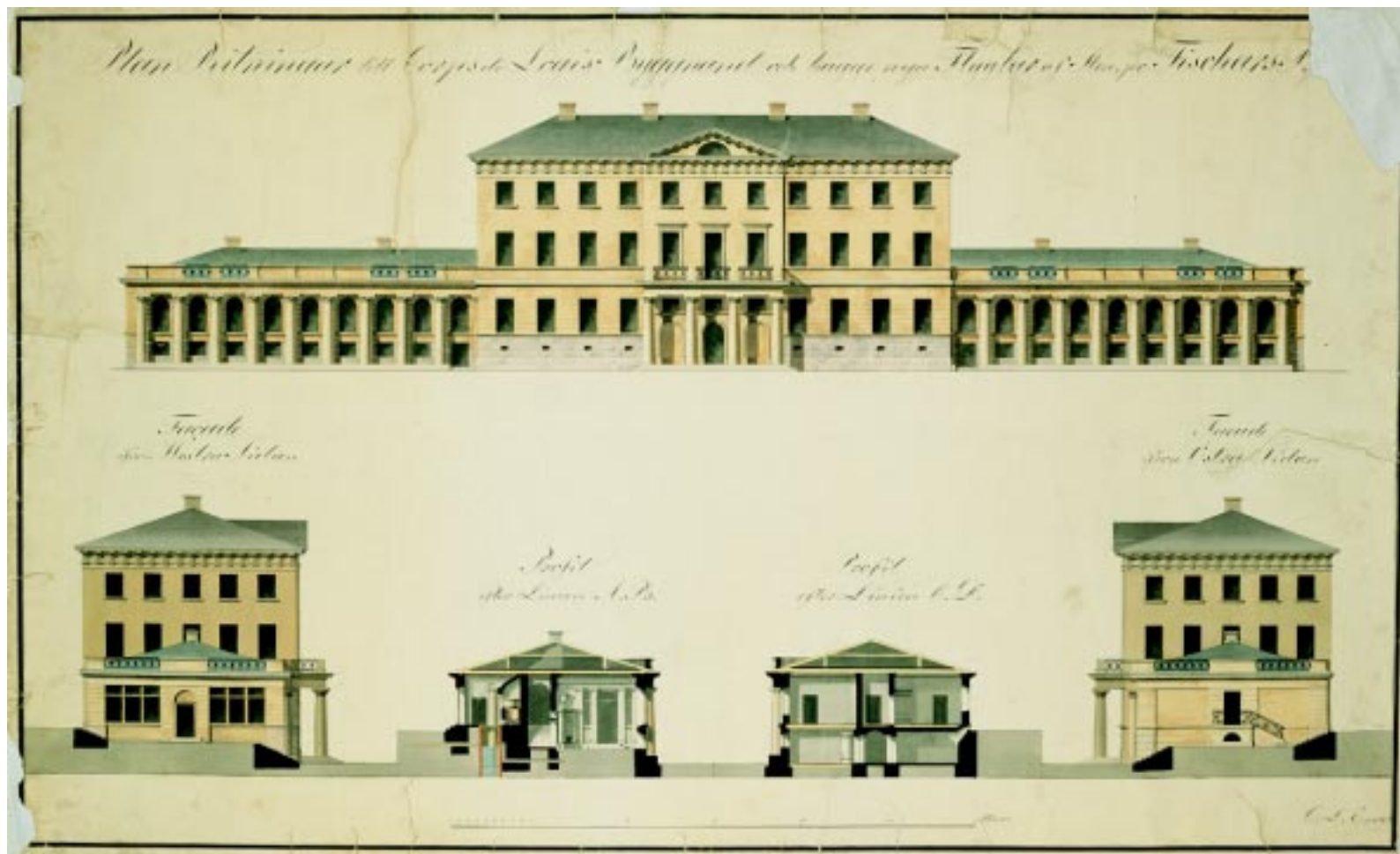
Rissla, flows into the Fiskars River. It was on this tributary that the brickworks and threshing house were situated. The terrain in the fertile and luxuriant Fiskars River valley and the distance between the rapids affected the layout of the buildings, and the early 'town plan' was not very carefully organized.

A copy of Qvist's map from 1764, kept in the National Archives. The map bears the inscription: Faithfully copied according to the original in the Fiskars archives by Fiskars in 1882-83, Lindsay von Julin. The blast furnace in Qvist's map was once located on the site of a former cutlery mill, a red brick building.

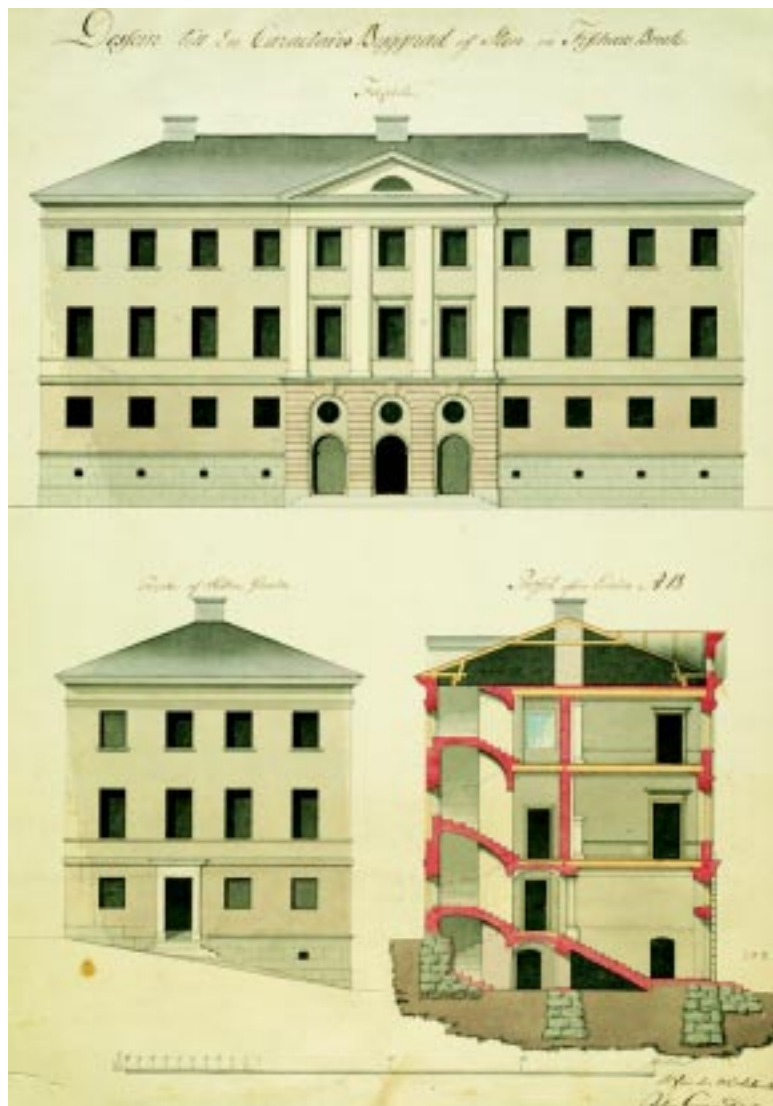
In 1764, at a time when Fiskars was owned by Robert Finlay, Bengt Qvist, the head furnace supervisor, drew up a regulation programme for a more uniform town plan. The programme comprised a straight road from the blast furnace at the lower rapids to the northeast; to the west were the small cottages of the workers, with modest cowsheds opposite. The longer elevation of the densely placed houses faced the road, which acquired a closed, street-like character. At the southwest end of the road was the administrative centre of the ironworks: a main building with two wings. Only one of the wings was completed (currently housing the offices), but the main building was erected in 1816-1818 on the site chosen by Qvist. Qvist's plan was even more accurately implemented in the construction of the 'ironworks street' - or actually two streets, an upper and a lower one. An extra street was called for by the increasing numbers of workers that the new industrial plants had brought into the area. The upper street, today called Åkerraden, followed Qvist's plan more accurately than the lower one. It went due east from the lower street, ending at the upper works. There were two longish outbuildings on each side of the street at the west end. At the east end of the wooden bridge across the Rissla River, the dwellings were placed on the north side of the street and cowsheds on the south side. There were gardens between the houses and strips of field to the north.

When he moved to Fiskars, Bengt Ludvig Björkman decided to build a handsome castle-like mansion house as his home and the administrative centre of the ironworks. The first design was made by Pehr Granstedt in 1815, but Björkman was not pleased with it. He ordered new drawings from the Italian-born architect Charles Bassi, who clarified the room layout and structure, and added decorative





C.L. Engel's design for the Fiskars mansion, Corps de Logis. The low wings were never built.



On the left, Pehr Granstedt's design for the Fiskars mansion house, from 1815. On the right, Charles Bassi's corresponding design from 1816.



The lower works street; its Empire-style architecture still exists today. Photographed before the Second World War.

details, the most significant being the front balcony supported by Tuscan columns. The house proper, called the Stone House, was, however, built roughly to Granstedt's plans. When the masonry work was nearly complete, Björkman ordered a third set of drawings from Carl Ludvig Engel. Engel suggested that a one-storey wing be added on either side of the house, with columns in front, but he wanted no alternations to the main building. The wings were never built, however.

In those days it was not a simple matter to erect a three-storey masonry house with 32 rooms. The framework was completed in 1818, but the interior was not finished until the 1820s, under Johan Jacob Julin. The building was made of bricks produced by the Fiskars factory, and the best master bricklayers were employed. The roofing was copper, which was both expensive and rare, but could be done at Fiskars as Fiskars owned Finland's first copper mine, in Orijärvi.

Both of Fiskars' streets were preserved in accordance with Qvist's plan until J.J. Julin's time. He did a great deal of building work, extending the works and having dilapidated buildings renovated. In 1826-1852 the houses in the lower street were pulled down and replaced by stables, a school, a carriage house, a bailiff's house and two tenements on the west side of the street. The designers included some of the most prominent architects of the era: C.L. Engel, J.E. Wiik, A. Peel and A.F. Granstedt. The street was thus given an Empire look, which has remained nearly untouched up to the present day.

Julin had all the dwellings along Peltorivi repaired or rebuilt, often using and transporting to Fiskars some of the



Fiskars ironworks, copperplate drawing from the 1870s.



farm buildings acquired by the company. Completely new buildings were also erected, and by the end of 1842 Fiskars' own sawmill supplied the necessary timber and the roof tiles were made by Fiskars' brickworks. The cowsheds built on the southern side of the road were demolished and Julin built three new common cowsheds further away from the housing. These measures eliminated the closed streetscape of the original streets.

Julin had what is today a historically valuable foundry and machine workshop built by the upper rapids. Rosehill, a house designed for David Cowie, still stands on a hill north of the works. In 1841 a house was also built for Anders Ericsson midway along the south side of the upper street. This house, called Fagerbo and later Flowerhill, has since been pulled down.

The plants by the lower rapids were extended by building a cutlery mill - including a coppersmith's workshop - and a fine forging workshop, but these buildings have since been destroyed. A stone inn was also built southwest of the main building in 1836, in Julin's time.

Opposite page: The copper smith's workshop built on the lower rapids in 1818 and some of its workers, in a photograph from the 1860s.

On the right: Fiskars workers on the lower street at the turn of the century.

The Peltorivi dwelling houses as seen from Rosehill.





The Fiskars cutlery workshop in the 1860s. This building was later destroyed by fire, and the brick building which replaced it was built in 1888.

Between 1853 and 1866, the ironworks was managed by the Ironworks Company John von Julin. On the upper rapids the company built a rolling mill, a blowing room and a group of buildings consisting of three two-storey tenements for the rolling mill workers.

Another active building period began when Fiskars Ltd Co was established in 1883 and continued up to 1901, although a building or two continued to be completed every second or third year until 1922. From this period, an assembly hall, a large slag-built brick granary and a mill still stand at the lower ironworks. In 1888, a fine new forging workshop was built with an extension. In its current guise, the office building originally built in the 18th century dates back to 1911. The large cowshed behind Peltorivi was completed in 1921. In the upper works area, the extension to the machine workshop, the product workshop, a long factory building made of coccolith, various outbuildings and three of the Hasselbacken tenements (the fourth was destroyed by fire in 1986) have been preserved. The Suutarinmäki housing development was built northwest of the ironworks. As the number of workers increased, the company built new housing further away from the central production areas. Fiskars employees were also allowed to build small cottages or houses for recreational use on company land. The factory hospital completed in 1892 still stands on the eastern shore of Ålsviken bay.

Old ironworks communities such as Fiskars were obviously different from those in farming villages or in towns. They also differed from the industrial communities that emerged in the 1870s and 1880s. The ironworks owner held absolute sway, and in spite of technological advances, the ironworks have reflected old handicraft traditions right



The Kullan houses form an enclosed courtyard.



Pohjankuru harbour had been vitally important for many ironworks since the 17th century, both for the import of raw materials and the export of their products.

up to our time. Thus the ironworks industry and its various sub-sectors should be seen as a historical phenomenon dating back to the 17th century which has greatly enriched Finland's culture.

The Fiskars ironworks town plan is made up of areas concentrating on administration, industry, agriculture and dwellings. The buildings include different structures for

industry, agriculture, storage and housing. Apart from the buildings, the entire ironworks milieu also takes in rivers, reservoirs, bridges, roads with planted trees, gardens, and the surrounding fields and forests.



The upper works in the 1920s. Some of the warehouses have been pulled down, as has the rolling mill in the middle of the picture. Fiskars had its own narrow-gauge railway, which ran all the way to Pohjankuru harbour.

The lower works in the same period. Apart from a couple of warehouses, the buildings still stand. The light building in the middle, a former coppersmiths' workshop with later extensions, is now used for exhibitions.



JULIN'S FISKARS the results of an enlightened owner's willpower

Most of the milieu that greets the present-day visitor to Fiskars was designed by John von Julin.

As you approach Fiskars along the road from the south, the first building on the left is the assembly hall. It was built by the local people themselves on the initiative of Karin von Julin in 1896. In the main hall, which has a stage and murals by Lennart Segerstråle dating from 1938, thousands of meetings, parties, jumble sales, auctions, theatrical pieces and concerts have been held over the years. The next house, the Wårdshuset, dates from Julin's time. It was built in 1836 and designed by the architect A.F. Granstedt.

After the junction that leads to the Koski ironworks, there is an old office and the main building, known as the Stone House. On the other side of the road, on the riverbank, there is first a large granary and then a brick factory building, now used as a design and conference centre. This was built on the site of an old blast furnace in 1888, to replace the fine forging mill, which had burnt down. The exhibition premises which lie opposite, across the river, used to belong to the fine forging mill and a copper hammer workshop. The two long yellow dwelling houses adjacent were

The corps de logis at Fiskars in a festive light.



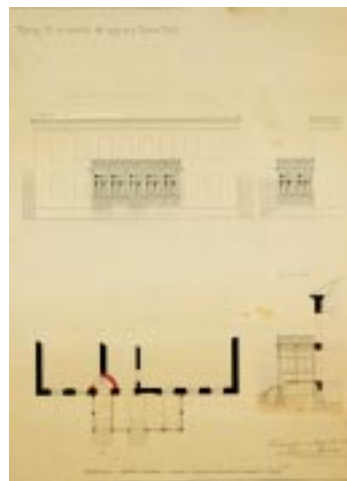
The Wårdshuset, the inn, built in 1836, in front of which the rails of the narrow-gauge track can still be seen. The line was last used in 1952.



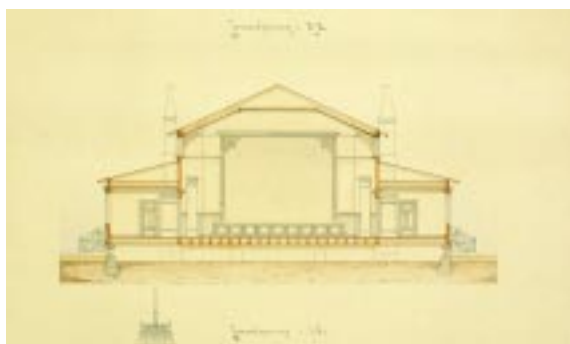
The drawing of 1901 by Waldemar Aspelin for the granary and the same building today.



The Wårdshuset at Fiskars from the northeast. The assembly hall at the back.



Waldemar Aspelin's 1892 design for a veranda for the inn.



Lennart Segerstråle's view of the Fiskars ironworks and its workers, using local residents as models. Easily recognizable among the figures are some old workers and the master sportsmen Alf Lindblad and Albert Winter.

Cross-sections of the assembly hall, designed in 1896 by Waldemar Aspelin.



built to accommodate the rolling mill clerks around 1860. The houses were built from logs taken from the two-storey main building at Mörby Manor, which was bought for the purpose.

After the Stone House, more buildings from Julin's time follow: a brick building with a clock tower, which was a combined stables and school building, and two stone dwelling houses, the first from 1852 and the second, designed by Engel, from 1828. The mill opposite the stables was built in 1898 from red brick and slag brick, the same materials as the granary mentioned earlier. By the next bridge is the fire station and then, as a reminder of bygone days, a locomotive from Fiskars' own railway. The brick building which can be seen on the opposite shore was a laundry and mangle house with a bread-bakery on the ground floor. As you continue along the road, you can see the Suutarinmäki housing area on the left slope, a group of red wooden houses of different sizes.



Peltorivi, the road to the upper works, branches off to the right along the river. The oldest buildings in the area lie along this road. First, there is Kardusen, the house Julin built for the skilled workers he imported from England. Then there is a long line of red wooden houses, old

On the left: The new cutlery mill, built to replace an old one designed by C.L. Engel. The dam on the lower rapids is near the gable end of the building.

Next page: The impressive, two-storey mill from 1898 is made of slag brick.







Buildings on the front end of Peltorivi.

On the right: Kardusen, the house built for skilled workers from England.

Extreme right: The ironworks laundry, built in 1860, naturally lies at the water's edge.

Opposite page: In Julin's day, even outbuildings were painstakingly designed: here a shed "Klockstolpan". The other picture shows the fire station by the River Fiskars.





*A threshing house and drying barn
built by the small stream called
Rissla.*

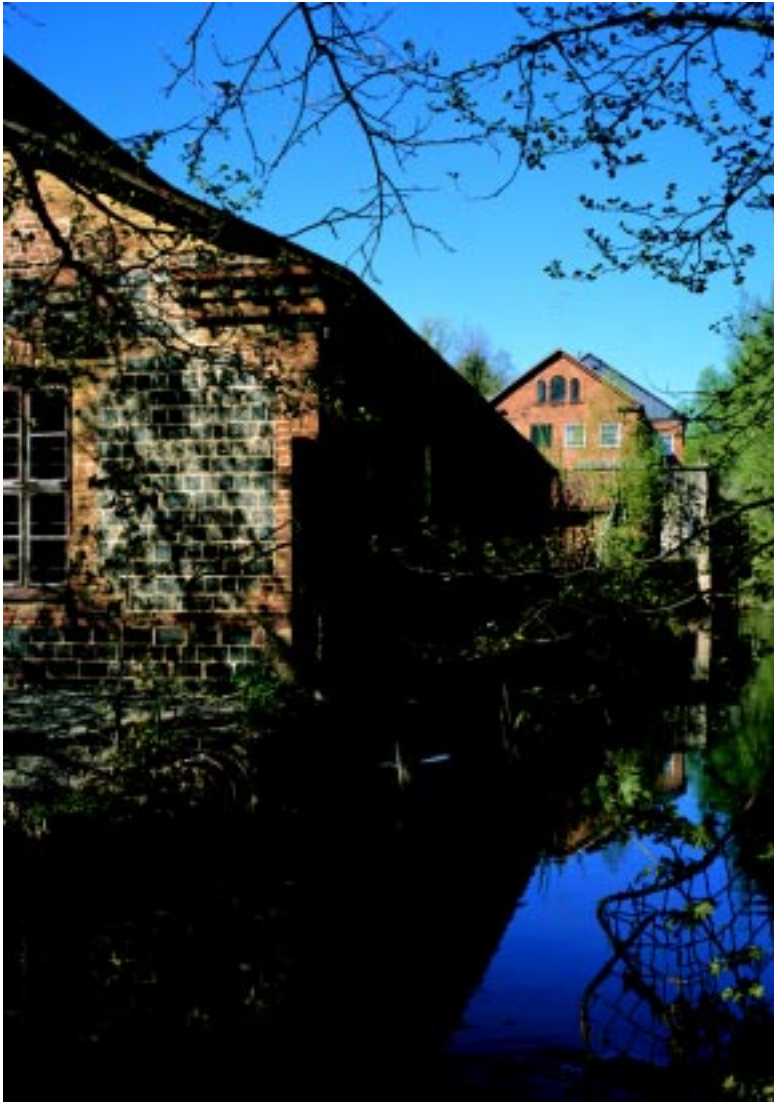
*On the left: the Kullan dwelling
houses, seen from the west.*

*Below: the yards of Peltorivi
divide up the dwelling houses and
the outbuildings.*





Some of the Hasselbacken workers' tenements, north of Ålsviken.



and much repaired. The last house is the yellow works canteen, built by Julin in 1842. In the background, a handsome cowshed built 1919-1921 can be seen. The original cowshed, designed by Engel, which was above the old tenements, was torn down a long time ago.

In the upper works, there is a machine workshop made of brick and partially renovated, an old foundry, and an office, used as Fiskars museum since 1942, which also date from Julin's day. The other works buildings are from a later period. On the left, on the slope opposite the office, is Rosehill, the home of the resident doctor, followed by a long row of more recent dwelling houses. On the other side of the river, there are more houses built in the 1860s for the workers at the rolling mill. It was thought during Julin's time that it was healthier to live higher up on the slopes than in the old houses down in the valley.

*The building that used to house a bar iron hammer on the upper rapids.
The gable of the machine workshop
can be seen in the background.*



The house, up to the hill, completed in the 1830s as the offices of the machine workshop, is today used by the Fiskars museum.



On the top right: The foundry (1836) played a key role in Finland's development into a modern industrialized nation; it was, after all, an integral part of the machine workshop built the following year.



On the left, the former works canteen; on the right, a factory building.





THE FISKARS IRONWORKS a living ironworks, the home of an artist community, a tourist attraction

For visitors at the turn of the millennium, Fiskars offers light and life, new residents and constantly improving services. Summer exhibitions that are among the best Finland has to offer have become a tradition in the past few years. The ironworks are the home and workplace of a community of craft artists, designers and artists that is unparalleled worldwide. In spite of the new wave of activity, Fiskars' cultural values and uniqueness remain. The ironworks today is anything but an outdoor museum.

One would hardly believe that as recently as the 1980s Fiskars was still suffering from the same kind of shakeouts as many industrial communities in other places. Industry

had changed in form. At Fiskars, as the company grew and reoriented itself towards the global market, jobs changed to meet these new demands. The original ironworks village no longer had enough space for sufficiently large units. The vicious circle was complete: as people of working age moved away, houses were abandoned and services began to wither. This did not last for long. The natural surroundings of Fiskars, its cultural heritage and traditions proved

The river through Fiskars and the many bridges which cross it have always been an prominent part of the village.

Opposite page: The schoolhouse and stables, with the towerclock, are a landmark in Fiskars.





The outdoor terrace of the restaurant in the Copper Smithy is next to the rapids.

Opposite page: The Empire-style workers' housing estate, the tenements, underwent a total internal refit in the 1990s. The upper floor now contains modern homes, while the lower storey houses small shops and workshops.

their attractiveness. New residents and users quite quickly moved into the vacated facilities. As the new millennium approaches, the ironworks village is in full bloom. Once again, the main street of Fiskars is busy throughout the year. The population has started to rise. Many formerly empty buildings have new occupants living in them and many more people would like to come than the ironworks can take. A great number of new jobs have been started that are suited specifically to the Fiskars of today. Most of the newcomers are small business operators.

Renovations have been carried out everywhere – from the manorial Stone House to the former workers' housing

painted in rural red. One major item of refurbishment consisted of two masonry buildings by the main road. The Fiskars company rejuvenated and modernized the tenements as commercial premises and housing. With their totally renewed interiors, they are a far cry from the housing standards of yesteryear.

Fiskars has become one of Finland's most popular tourist attractions, as can be seen from the dignitaries' signatures in the visitors' books and the lines of charter buses, especially in the summer months. Visitors flock to the ironworks at all times of year.



Above: The permanent exhibition entitled Fiskars 1649 was opened in the Clock Tower building in 1989. In addition to the history of the ironworks, the exhibition features the early days of iron-making in Finland as well as Fiskars' products of today.

In the middle: The gallery shop Onoma in the Clock Tower building. It sells the creations of local designers and craft artists.

On the left: The old industrial buildings now serve as exhibition facilities with plenty of space and light. The copper smiths' workshop, used for exhibitions, is in the upper left. Below is the granary.

New residents for old buildings

The craft artists, designers and artists who have moved into the heritage site of the ironworks village have played a key role in the revitalization that has taken place in the past few years and in the creation of new jobs.

One sign of continuity is the Fiskars factory by the river, working two shifts a day; the corporation's real estate operations are also concentrated in Fiskars. In all, the corporation has nearly a hundred workers in the ironworks village.

Nearly all the other jobs are new. In the old workshop of the ironworks there now operates a woodwork plant using special types of wood – on the hill slopes of Fiskars there grow 29 different tree species. The woodwork shop is where the chairs in the Kiasma Museum of Modern Art were made. As in the old days, apprentices practise their trade here. In the handsome old stonework cowshed, which long stood empty, a candle factory now operates. The village also has a design office, an interior design bureau, several ceramics studios, a glass workshop and a small-scale paper mill. There are two restaurants, one on each bank of the river: the Fiskars Wårdshus, and the Hill, which operates in the former copper workshop and to which people come from far and wide to dine.

The conference centre FiskarsForum in the former cutlery mill provides an excellent venue for congresses and seminars with an idyllic view of the rapids.

Although there is more space per person than there used to be, the rising population meant that the village had

almost a hundred schoolchildren of comprehensive-school age at the end of the 1990s, twice as many as there had been a few years before. New residents are in prospect when the planning permission for the Suutarinmäki estate is carried out; it permits the construction of some new homes in between old workers' housing. The spirit of pitching in for the common good is once again respected. Solid evidence of this, past and present, is found in the work of the sports club (started in 1815) and in the hall built by the Fiskars tennis club in the 1990s. The hall, which stands on the outskirts of the ironwork village, is booked until late in the evening.

Big exhibitions in a small village

The first exhibition of Fiskars' craft artists, designers and fine artists in summer 1994 has had far-reaching results. The exhibition forged the people participating in it into a community. The reputation of the new Fiskars began to spread from the old copper workshop to the outside world. Many of the items exhibited then have since become classics. Visitors were amazed that a community of a mere 500 people and thirty or so exhibitors could put on such an impressive event. As Finland's leading daily paper *Helsingin Sanomat* wrote in 1997: *The cutting edge of Finnish design has moved as if by stealth to Fiskars in Pohja. An absolute torrent of design awards has flooded into the historical ironworks village this year.*

The community of craftspeople, designers and artists has since grown and organized itself as a cooperative. It is a community whose strength is its diversity. Among them in 1999 are an artisan, a restorer, an enamel artist, an object designer, a silversmith, a ceramist, a bookseller, a jew-

ellery smith, a weaver, a fine artist, a flax microbiologist, a *puukko* knife-maker, a cabinetmaker, a smith, an interior designer, an instrument-maker, an artist-photographer, a graphic artist, a textile artist and an industrial designer.

The community has held exhibitions since 1994. The themes have included nature in Fiskars, natural materials, storage and preservation, dialogue, process, and celebration in Fiskars' jubilee year of 1999. A tradition of garden exhibitions was started in 1998. The exhibitions have been increasingly profitable. The community has its own central office and general secretary, as well as the gallery shop Onoma in the Clock Tower, which can well be described as the distinctive landmark of Fiskars. The shop has doubled its sales every year. *Art not kitsch – at last, really different objects*, as the German interior design magazine *Schöner Wohnen* wrote about a visit to Fiskars in 1998.

Fiskars now has space for two large summer exhibitions. The decorated granary building from the early twentieth century has been refurbished as an exhibition venue. The Fiskars community has used its good offices to put on, in addition to its own exhibitions, a National Wood Year exhibition, a grand Finnish and international paper art biennial, plus the international ceramics exhibition entitled *Born in Clay*, which featured the work of 70 ceramists from 13 countries. An exhibition of the masterpieces by journeymen from the Carl Malmsten cabinetmaker's school in Sweden was also staged in Fiskars.

Home products for faraway places

Easygoing Fiskars has always had links to the rest of the world. At the turn of the millennium, design agencies and workshops in Fiskars are making products and designs for faraway places, such as a corporate presentation sauna in Moscow for Finnish companies or a mining machine for Canada, forestry machinery for Sweden and furniture for Japan.

Objects shown at exhibitions in Fiskars have often journeyed abroad, for example to a design exhibition in Nice, the Barbican Centre in London, and a special exhibition put together at the Höganäs Museum in Sweden by people from Fiskars, which stirred a great deal of interest in the Fiskars community. Collaboration has been continued in Bergslagen, where in 1998 an exhibition of Finnish industrial design entitled *Industry + Design = Future* was put on.

The community's basic concept and working methods have attracted a lot of interest around the world, and presentational tours have been held in Spain, the UK, the USA and other countries. The network age has made communications even better, as the Website www.fiskars.fi/village links the ironworks village to the rest of the world in real time.

Opposite page: Fiskars corps de logis 1998.





Fiskars 1649, the exhibition

The permanent exhibition on the history of the Fiskars ironworks and the early years of Finnish iron-making was opened in the Clock Tower building in Fiskars in 1989.

Editing of the catalogue

Arch Design Oy: Barbro Kulvik, Antti Siltavuori and Tommi Jokivaara; layout

This exhibition catalogue contains some of the material used in the exhibition. The text review and editing were carried out by Sten Björkman and Arne Heporauta (pp 2-32 and 50-61).

Other articles:

Per-Erik Lönnfors: After the war: evolving into a strong international corporation (pp 33-37).

C. E. Carlson: Julin's Fiskars: the results of an enlightened owner's willpower (pp 62-74).

Anne Paljakka: The Fiskars ironworks: a living ironworks, the home of a design community, a tourist attraction (pp 75-80).

Translations: The English Centre
John Arnold

Publisher:

Fiskars Oyj Abp, Pohja, 1999
Second revised edition / 2
ISBN 951-98234-2-5

The first galley press acquired by the Suomalaisen Kirjallisuuden Kirjapaino Oy printing works; the machine was in constant use from 1850 to 1966. Machines for the printing industry were among the products of the Fiskars machine workshop, founded in 1837.

Sources

Archives:

Fiskars Historical Archives, Pohja
Helsinki University Library, Helsinki
Helsinki University, Department of Art History, Helsinki
National Board of Antiquities,
Historical Picture Archives, Helsinki
Pohjan Ruukkiteollisuus Oy's archives, Pohja
Photographic Museum of Finland, Helsinki
Swedish Literature Society in Finland
Archives of National Culture, Helsinki
National Archives, Helsinki

Literature:

Georgius Agricola: *De Re Metallica*. Basle 1561.
Georgius Agricola: *Vom Bergwerck XII Bucher darin alle Empter/Instrument/ Bezeuge/unnd alles zu disen Handel gehörig mit schönen Figuren vorbildet und klärlich beschriben seindt ertslich in Lateinischen Sprach*. Basle 1557.
Olao Magno Gotho: *Historia De Gentibus Septentrionalibus*. Romae 1555.
A History of Technology, III. Oxford 1957.
Härö, Elias, *Fiskars Corps de Logis*. *Stenhuset*. 1983.
Härö, Elias & Salokorpi, Asko, *Ruukinmiljööt*. Museum of Finnish Architecture. 1979.
Kulturgeschichtliches Bilderbuch aus Drei Jahrhunderten, II. Munich 1883.
Kulturgeschichtliches Bilderbuch aus Drei Jahrhunderten, III. Munich 1885.
Klinge, Matti & Reitala, Aimo (Ed.): *Maisemia Suomesta*. Otava. 1987.
Myllykylä, Turkka: *Suomen kanavien historia*. Keuruu 1991.
Nikander, Gabriel: *Fiskars bruks historia*. Turku 1929.
Pohja kuvina. Publication of Karjaa-Pohja Savings Bank. 1988.
Rinman, Swen: *Bergverks lexicon*.

Stockholm 1778, 1789

Rinman, Swen: *Mekaniken*. Stockholm 1789.

Rinman, Swen (s.a.): *Tabeller till Rinmans Bergverks lexicon*.

Särkkä, T.J.: *Fiskars - kolmesataa vuotta raudanjalostusta ja teollisuuskulttuuria Suomessa*. Helsinki 1935.

Picture credits:

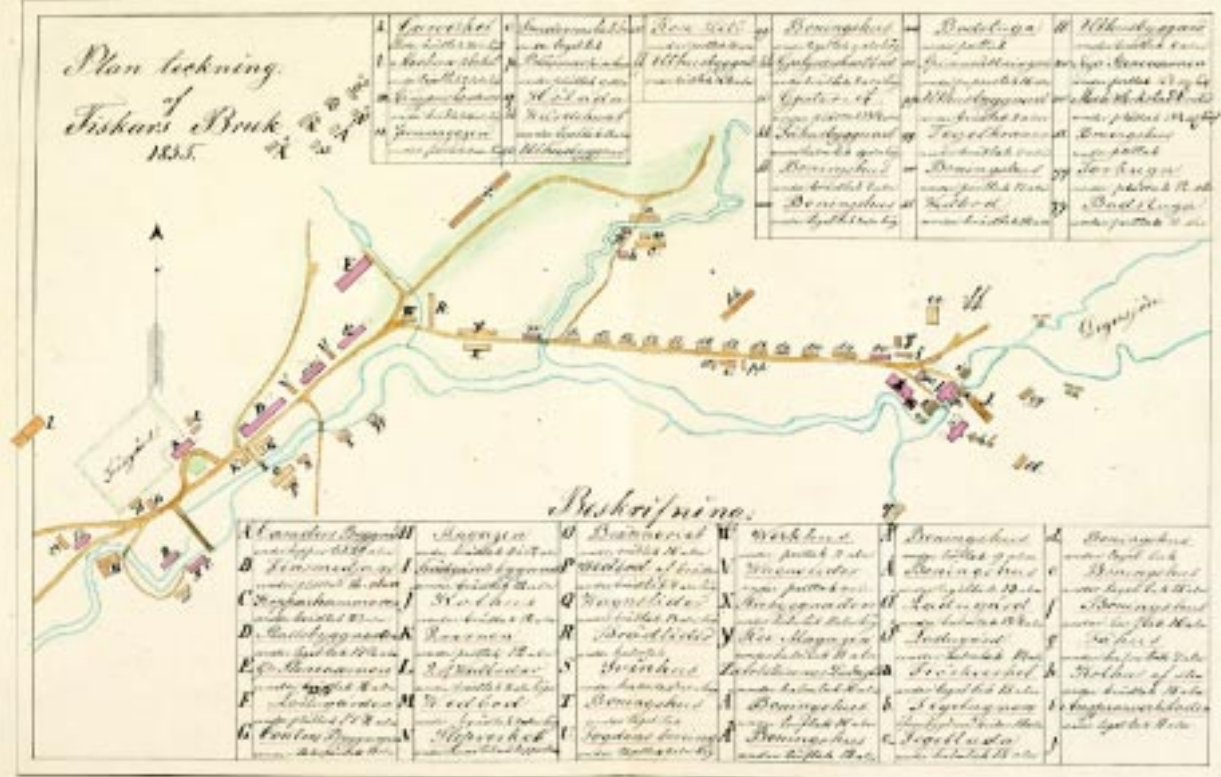
t = top, m = middle, b = bottom, l = left, r = right

Arch Design, Fiskars: Sandra Kantanen: pp 35l, 36, 40, 42, 44, 46, Mika Koplar: pp 39, 41, 43, 45, 47, 49, 65t, 84, Perttu Rista: pp 16, 22, 38, 48, 62, 64bl, 64tr, 66t, 67, 68l, 69, 70, 71, 72, 73, 74, 76, 77, 78, 81.
Bank of Finland: Helsinki: p 20
Canal Museum, Lappeenranta: p 13tl
Fiskars' Archives: pp 13bl, 18, 23, 24br, 28, 29, 32r, 34, 35r, 52, 53, 54, 55, 60, 61, 64tl, 64br, 65b, 66b, 68r, 75, C.J.
Malmberg: pp 56, 58, 57, Roos: pp 31, 32l, 33.
Helsinki University Library/Museokuvava: pp 2, 3, 4, 4trl, 6, 9, 10, 11, 12l, 13r, 17, Kerstin Smeds: p 30
Erkki Härö, Helsinki: p 27t
Iron Bureau, Stockholm: p 8
National Archives, Helsinki: pp 27b, 50, 51
Museum of Art and Design, Helsinki: p 21
National Board of Antiquities, Helsinki: pp 7, 21bl, 24tr, 63, 59
Outokumpu Oyj, Helsinki: p 19
Heikki Reenpää archive, Helsinki: cover, p 26
Archives of Sampo Insurance Company Limited, Turku: back cover
Stockholm City Museum: p 14
Studio Lindell, Porvoo: p 2tl
Tampere City Archives: p 24l
Turku Art Museum: p 5b

1. The assembly hall, designed by Waldemar Aspelin in 1896.
2. The two-storey inn was designed by A.F.Granstedt in 1836.
3. The ironworks office building was completed in 1765 and it is the oldest remaining building in the area. Its present appearance dates back to 1911.
4. The granary was built in 1902 to drawings by Waldemar Aspelin.
5. The fine forging workshop was originally a single-storey building designed by C.L.Engel in 1832. A wooden upper storey was added in accordance with drawings by J.E.Wiik in 1851. The fine forging workshop burnt down in 1888 and it was rebuilt in red brick, as it still appears today, in the same year. The low extension dates from the early years of the 20th century.
6. The coppersmith workshop was built as a two-storey masonry building in 1818. It burnt down in 1855 but was rebuilt. After coppersmithing was wound up, the cutlery production was moved into the lower storey and there was a grinding mill on the upper floor. A third storey was added in 1898; the buildings adjacent to it are newer.
7. Two clerks' houses, built in 1859 with timber from the demolished main building of Mörby Manor.
8. The Stone House the corps de logis was built for the use of the owner in 1816-1822. The first designs for the neoclassical-style manor house were drawn by Pehr Granstedt in 1815. Further designs for the building were produced by Charles Bassi and C.L.Engel. The outbuilding houses the company's historical archive.
9. The red-brick Clock Tower building was originally built as a schoolhouse in 1826. It was made higher in the 1830s, when it was also given the wooden clock tower on its roof with a clock by Könni. A stable was added at the same time as a wing. The various stages of this Fiskars land mark were designed by C.L.Engel, a British architect from St Petersburg called A.Peel, and A.F.Granstedt.
10. The tenements are buildings to house workers. Looking from the road, the tenement built by C.L.Engel is on the right; it was completed in the late 1820s. On the left is the 'new' tenement, by J.E.Wiik, from 1852. The bailiff's house in between was built in 1849.
11. The mill, built of slag-brick in 1898, stands on the site of the old mill. It was still in use till the 1950s.
12. The fire station was built in 1912.
13. The laundry was built in 1860. It originally housed a laundry, mangle house and bread-bakery. In the 20th century it has served as a primary school, a telephone exchange.
14. The ironworks' only grocery shop still in business.
15. Suutarinmäki – workers' housing.
16. Kardusen was built in 1843 to house the cutlery mill's smiths, who had immigrated from Sheffield, England.
17. Peltorivi, the upper street of the Fiskars ironworks. The street, with its workers' housing, took its present shape in the 1820s and 30s. The buildings underwent a major renovation in 1992.
18. The big cowshed was built in 1919.
19. A wooden threshing house from the beginning of the 20th century.
20. Fiskars mill.
21. Originally the building was the plough workshop, completed in 1914. Since then newer factory buildings have been added on.
22. The works canteen, completed in 1842, is now used by the Fiskars museum.
23. The former office of the machine workshop was built in 1837. It is now the Fiskars museum.
24. The red-brick machine workshop from 1837 lies next to the river. The extension between the workshop and the museum was built in 1889.
25. The foundry dates from 1836.
26. Kullan, a group of workers' dwellings with outbuildings, was built in 1859.
27. Rosehill was built as the residence of David Cowie, one of the founders of the machine workshop, in 1837.
28. Clerks' housing, 1899.
29. Hasselbacken, a workers' housing area built at the turn of the century. The buildings were renovated in the 1980s.
30. Baklura, the ironworks' open-air dance pavilion.
31. The former hospital of the ironworks was built in 1892.



Plan teckning.
Fiskars Bruk
1835.

[illegible]

Baskri/nine.

[illegible]