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Kapitel: The machine works

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The machine works

The early years

Switzerland was primarily a textile industry nation for over a hundred years. As can clearly be seen from the evolution of the Rieter company, a thriving industrial sector which created the best of conditions for the powerfully evolving process of industrialization had developed from trading with yarns and fabrics and selling the textile products produced in cottage industries. Mills mushroomed wherever machinery could be driven by water power, some 800 in Canton Zurich alone. Between 1802 and 1817 these deprived some 34 000 families of spinners of their home-based work – one of the most radical instances of mill industrialization anywhere in the world. The textile industry remained Switzerland's leading industrial sector until World War I.

The evolution of machine manufacture from textile processing which was decisive for Switzerland's industrial history is also illustrated by the example of Rieter. What had started with the repair of machines and the production of spare parts for equipment imported from abroad, and continued with in-house manufacture, led directly to the development of the mechanical engineering and metalworking industry and its growth into the largest sector of the Swiss economy. Swiss milling systems, steam engines, turbines, foundry products, electrical engineering, diesel engines, locomotives and textile machines won substantial shares of the world market within the space of half a century.

Just as entire spinning machines emerged from the repair shop for the first time at the Escher Wyss & Cie. spinning mill in Zurich, this initially secondary area of operations was also the starting point for in-house machine manufacture at Rieter in Winterthur. The 13 engineering workshops and foundries in the Zurich register of commercial companies were recorded under cotton companies until 1842, before mechanical engineering was classified as an independent industrial sector from mid-century onwards, and now far outweighs textiles in importance.

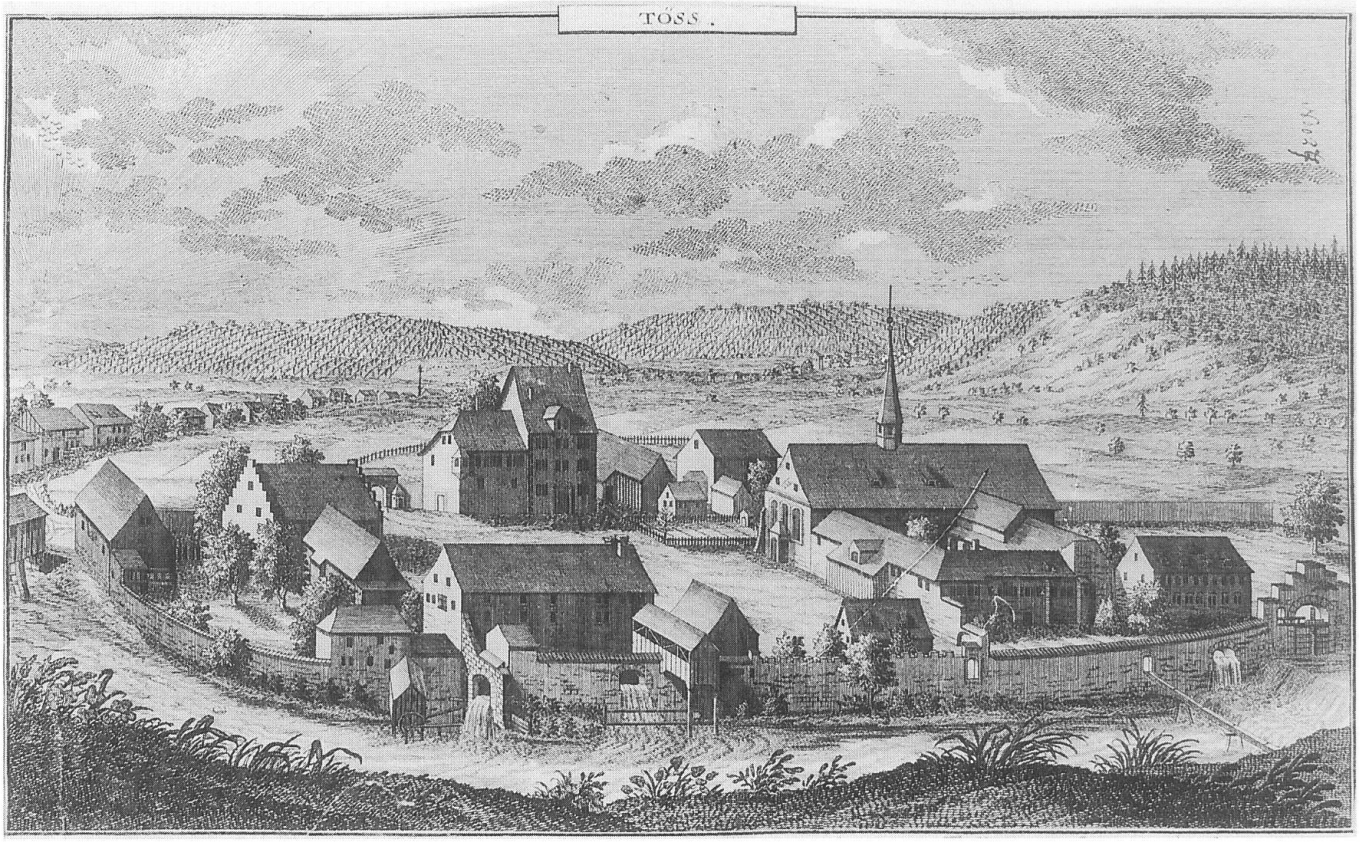
External circumstances made a decisive contribution to this development, not least the English ban on exports of textile machinery already referred to earlier. Tradition has it that the urgent need to re-equip the Buchenthal spinning mill with new machinery in 1821 gave rise to the manufacture of entire spinning machines. Towards the end of the decade it was then an order from Austria which forced Rieter to continue production almost against his will. At the request of the owners he fully equipped mill premises designed according to his own plans with machines of his own manufacture at Getzner & Cie. in Nenzing (Vorarlberg). Millwright Wimmersperger from Wülflingen had built the waterwheel, the sluice system and the transmission for this mill.

Further orders, mainly from Austria, which became the Rieter factory's main market, were the consequence of this initial delivery to an outside com-

pany. However, new installations were also delivered to Turbenthal/Hutzikon, Niederuzwil, Rorbas and Singen (Germany). In order to offset any slowdown in sales of spinning machines and keep the workshops employed nevertheless, Rieter turned to general engineering between 1834 and 1846, for example building transmissions, steam engines and machine tools. During those years the steel industry became more widespread in eastern Switzerland in general. For example, in 1834 the brass foundry at Holderplatz in Winterthur became the foundry of the Sulzer Brothers company at the Untertor. Business thrived especially after three young members of the Rieter family joined the company in 1835: the two Rieter sons Jakob Melchior – who did not stay long and later became a music publisher – and Heinrich – later colonel and Swiss federal senator – and son-in-law and engineer David Heinrich Ziegler.

The Töss convent

The purchase of the premises of the Töss convent by the Rieter company in the eighteen-thirties, already referred to earlier, proved to be a major milestone in the history of the company. The buildings of the Dominican convent, consecrated in 1240 and secularized in 1525, had stood empty since 1798 after being used for centuries by the canton of Zurich as an official residence. After 1830 the radical Zurich government lost all interest in the property and put it up for auction. In August 1833 Heinrich Rieter acquired the estate, comprising mill, sawmill, grinding house, salt house, numerous barns, storehouses and stables, as well as fourteen acres (approx. five hectares) of arable land and orchards, for 76 000 guilders. Initially the rectory and the church with the cloisters were excluded, and were only acquired at a later date. Rieter acquired the official residence in 1840 for a further 4000



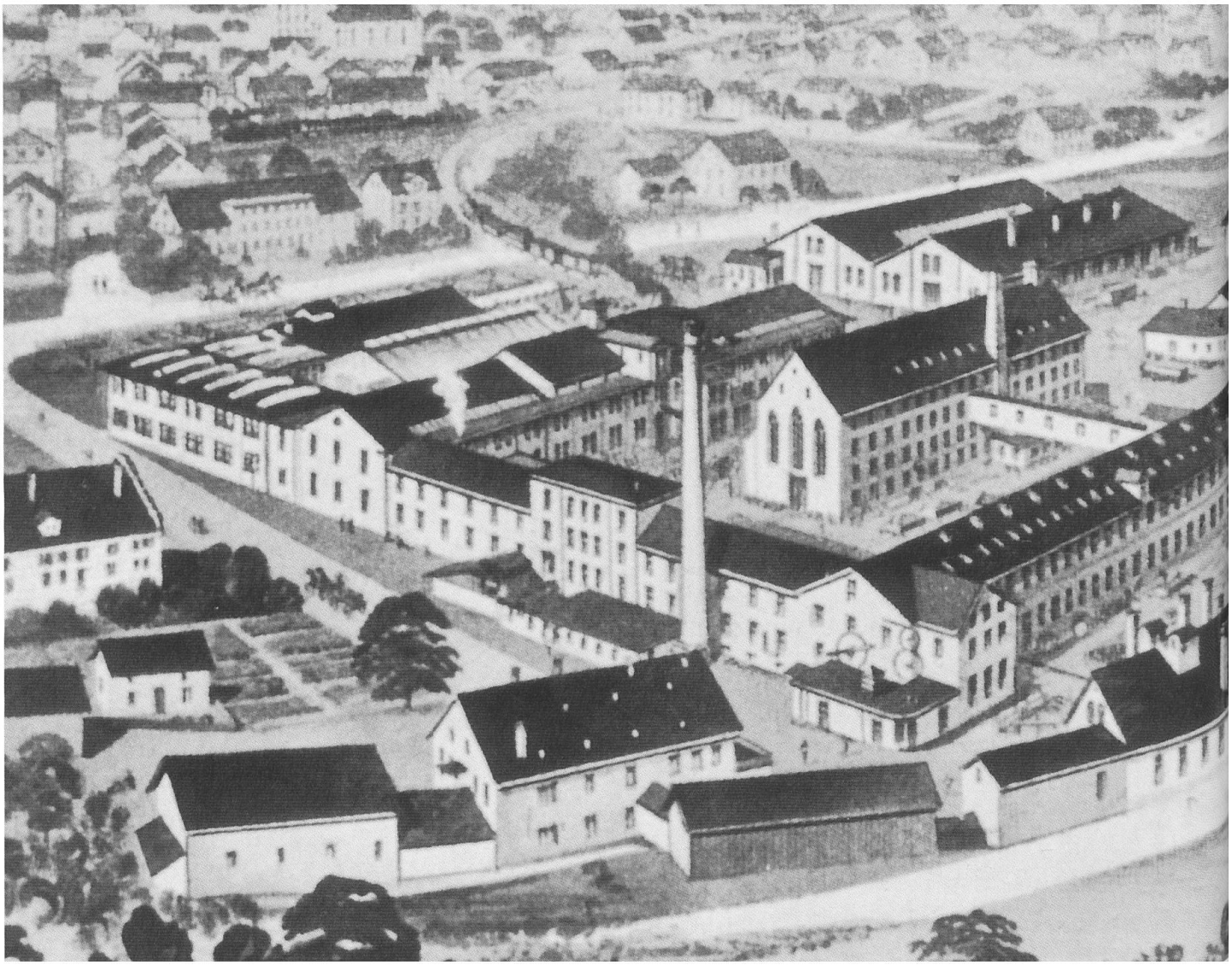
The Töss convent ca. 1741. Copperplate engraving by David Herrliberger

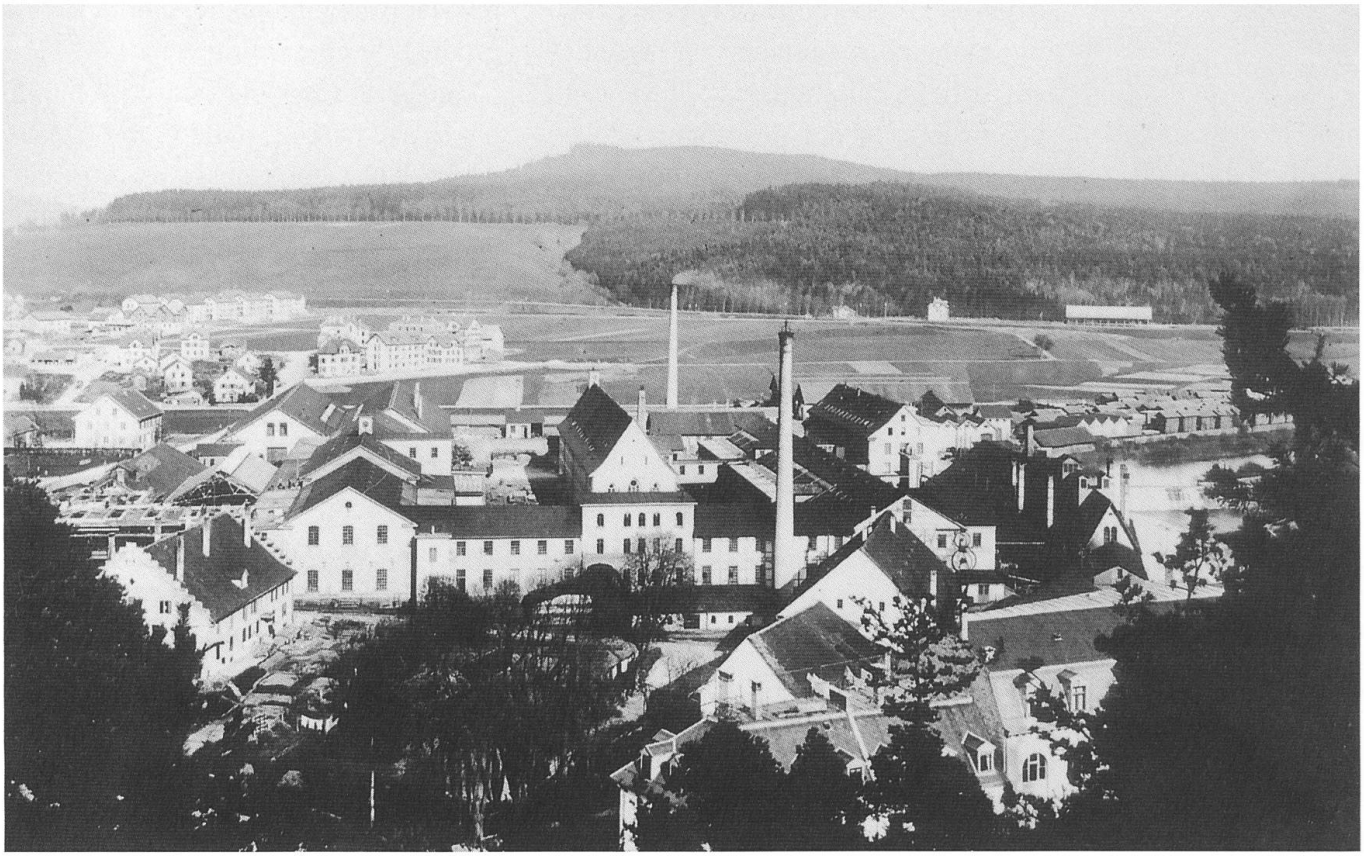
«Tössfeld Landscape», an oil painting by Julius Rieter (1830–1897) dated 1866. The former Töss convent is already being transformed into the Rieter Machine Works.

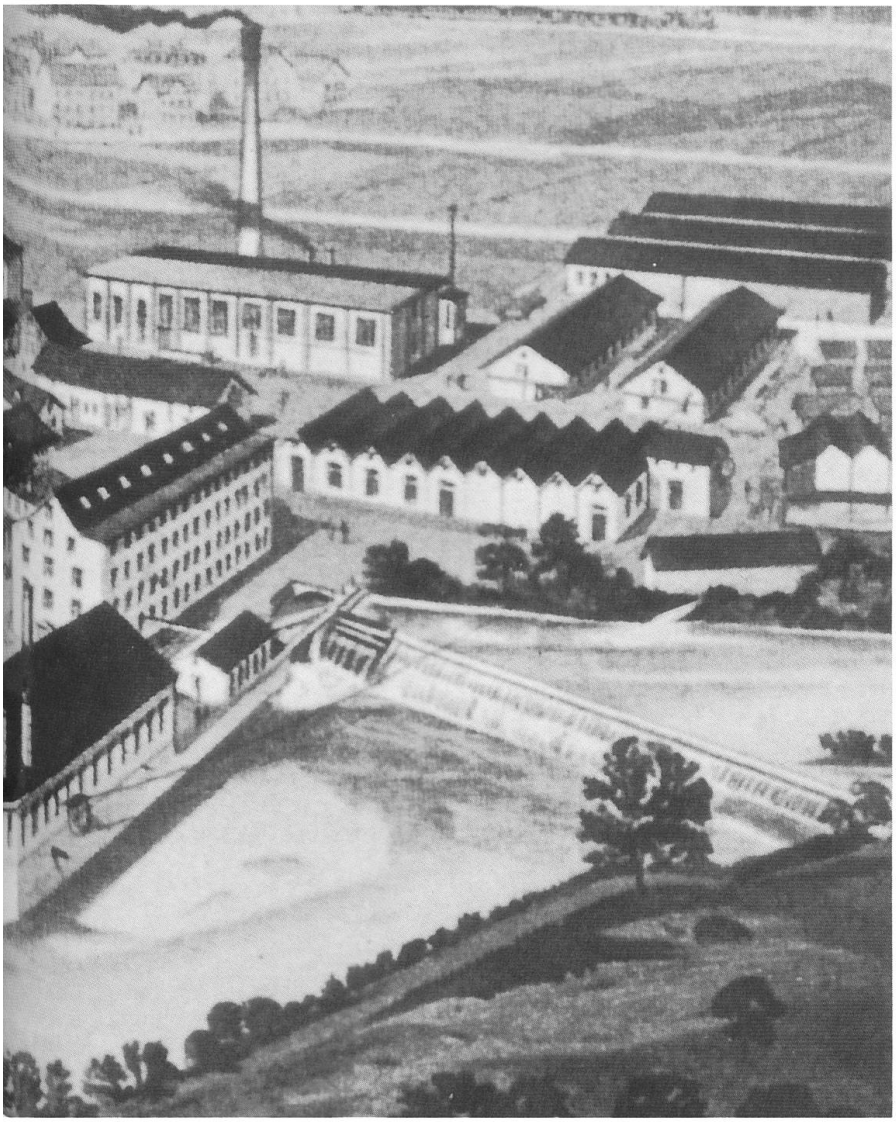
guilders. He thus had at his disposal an extensive property in which the growing machine manufacturing activities could be accommodated. There were no scruples about destroying artistic and cultural monuments in those days. In the spirit of the new age, the walls which had been alienated from their original religious vocation were to be remodelled into temples of engineering and industry.

At first little was changed: stores, a coarse count spinning mill and the repair workshops found a new home in Obertöss. This left space in Niedertöss for the thriving spinning mill, before all the workshops, which had in the meantime developed into genuine production facilities, were transferred from Niedertöss to the convent around 1854. This move reflected developments in the manufacture of metal products and machines, which was irrevocably beginning to dominate the production programme.

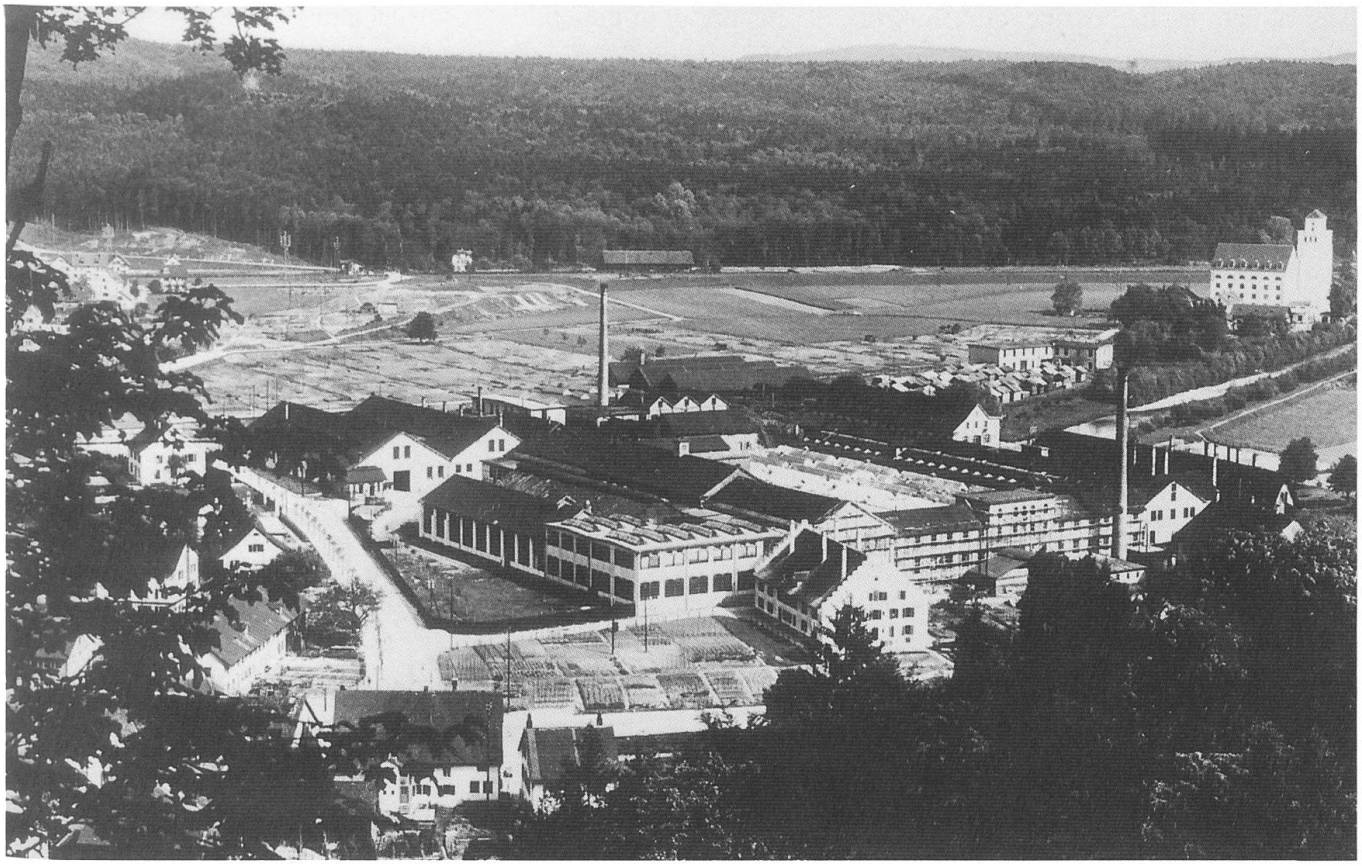
In April 1854 the convent church, the last remaining building on the site which had been secured as a precaution, passed to the Rieter company for 22 500 Francs under a contract with the Department of Finance of Canton Zurich. A new church, to the cost of which Colonel Rieter contributed 3300 Francs, was built for the Töss parish in the village itself. There were now no further obstacles to the completion of the construction projects. At the same time as the church, an imposing workshop building was first erected, soon to be followed by a building to the north at right angles to it, and in 1861 the forge along the Töss, connected to a small metal foundry. During the next major construction phase bet-

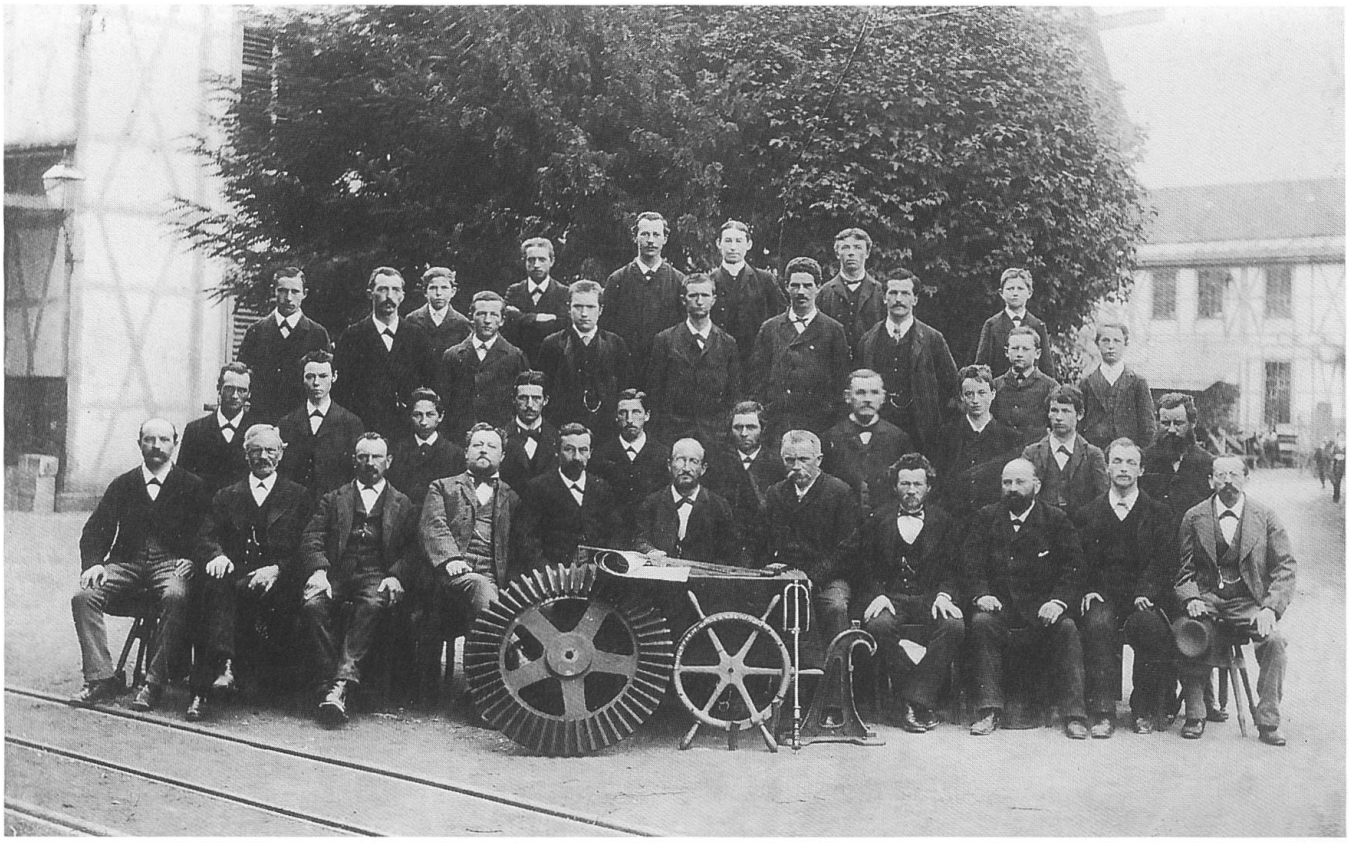






The machine works ca. 1900 (top), in 1903 (bottom left) and ca. 1928 (bottom right)





Employees in the «design and accounting» departments ca. 1886

ween 1867 and 1873, the turbine department was accommodated in a new shop, generally referred to as the 'mill building', with the grinding shop on the eastern section of the site. A storey was added to the office building in 1872/1873, together with other extensions. From a total of 900 in 1867, the number of employees rose to 1130 after the new buildings had been occupied in 1873; 736 of these were employed in the machine works.

In 1916, in the midst of World War I, the former convent church, which with its $4^1/_2$ feet (1.4 meter) thick walls towered over the factory buildings at Obertöss like an ancient monument, was replaced by a modern, low-rise building. The size of the plant continued to grow between the wars, with numerous new and replacement buildings. At the outbreak of World War II the company had about 1000 employees in the workshops, 200 in the foundry and an equal number of clerical staff.

Expansion of production in general engineering

The expansion of spinning machine production to an actual engineering works with a broader product range came about in the eighteen-forties and fifties. Initially this expansion was rather fortuitous. The engineering activities were unaffected by the crisis which caught up Rieter's spinning mills in the years 1841/42. It was just at this time that the largest order to date was received: to equip the Trumau spinning mill near Vienna. However, Rieter spinning machines were also installed in Switzerland, for example in the mills at Hard in Wülflingen, in Schaffhausen and in Haslen, Canton Glarus. However, this almost stretched capacity to its limits; Rieter had no more than 75 employees in the general metalworking shops in Töss in 1848. Many projects therefore had to be abandoned, especially as design problems and technical difficulties also arose. Nevertheless, some tools

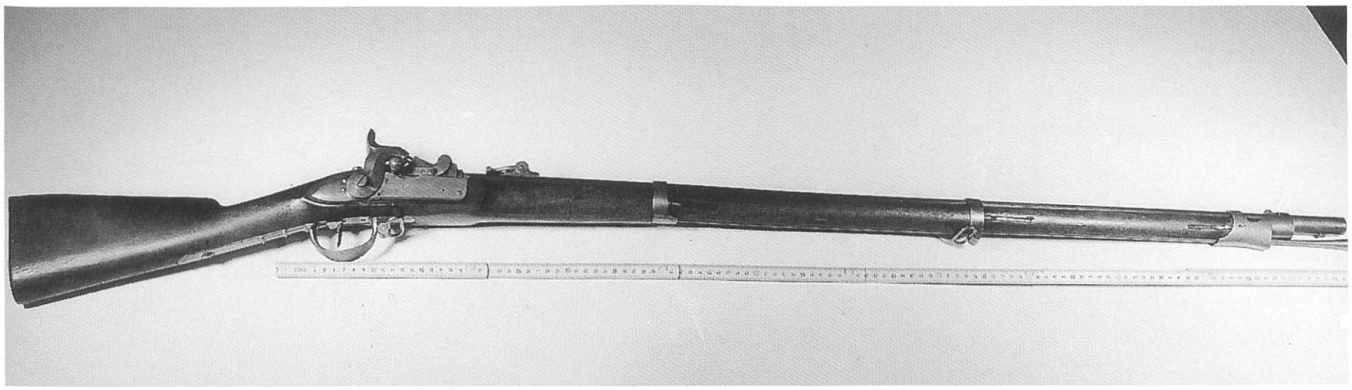
and machine tools, water wheels and transmissions were delivered. The advent of the railway seemed to hold the promise of good business in the eighteen-forties, after this new means of transport had first reached Switzerland in Basle in 1844. The delivery of locomotives and rolling stock for the 'Spanisch Brötli' line did not actually materialize, and the Separatist League crisis forced Rieter to abandon further railway plans. Perhaps, however, the proprietor was not enough of an expert in the field of mechanical engineering. Furthermore, his eldest son, who had been specially trained for the technical aspects of the business, left the company. Rieter Senior's first love was still spinning and the production and sale of yarn. Added to this were probably personal disappointments, which caused him to hand on responsibility to his son Heinrich, later to become a colonel and federal member of the Swiss upper chamber.

Rifles

With the new chief, the third generation of Rieters took control. Since orders for spinning machines were few and far between, an eye was kept open for new possibilities to keep the personnel in the workshops employed. One opportunity of this kind was rifle manufacture, after the Separatist League war had made a federal weapons factory necessary. Rieter subsequently developed various small arms, and he was already able to supply the first rifles to Canton Zurich and other cantons, and even abroad, to Württemberg, in 1848/1849. However, a firing pin rifle on the Prussian model, the 'best breechloader of its day', only found a buyer in Brazil. The firing pin rifle was not adopted by the Swiss army, and overwhelming foreign competition made the business look less than promising. Weapons and their accessories were not manufactured again until after the Franco-German War of 1870/1871, after the Swiss army command had decided to re-equip the artillery. Rieter then manufactured gun carriages and parts of the elevating gear for the 8.4 cm field-guns. However, this marked the close of the arms chapter for Rieter, since no weapons or ammunition were ever produced in significant quantities in Rieter's workshops, even during the two world wars in the twentieth century.

New orders for spinning machines from Neuthal (near Bauma) and Arlen (near Singen) heralded the end of the crisis at Rieter at the beginning of 1854. At the same time the company finally passed into the hands of the two sons Jakob Melchior and Heinrich on the death of Heinrich Rieter in 1851. A year later, company finances were reorganized: Heinrich remained owner of the company, his elder brother Jakob Melchior, who had long been

The manufacture of rifles, which was introduced in the mid-19th century, had to be discontinued after only a few years



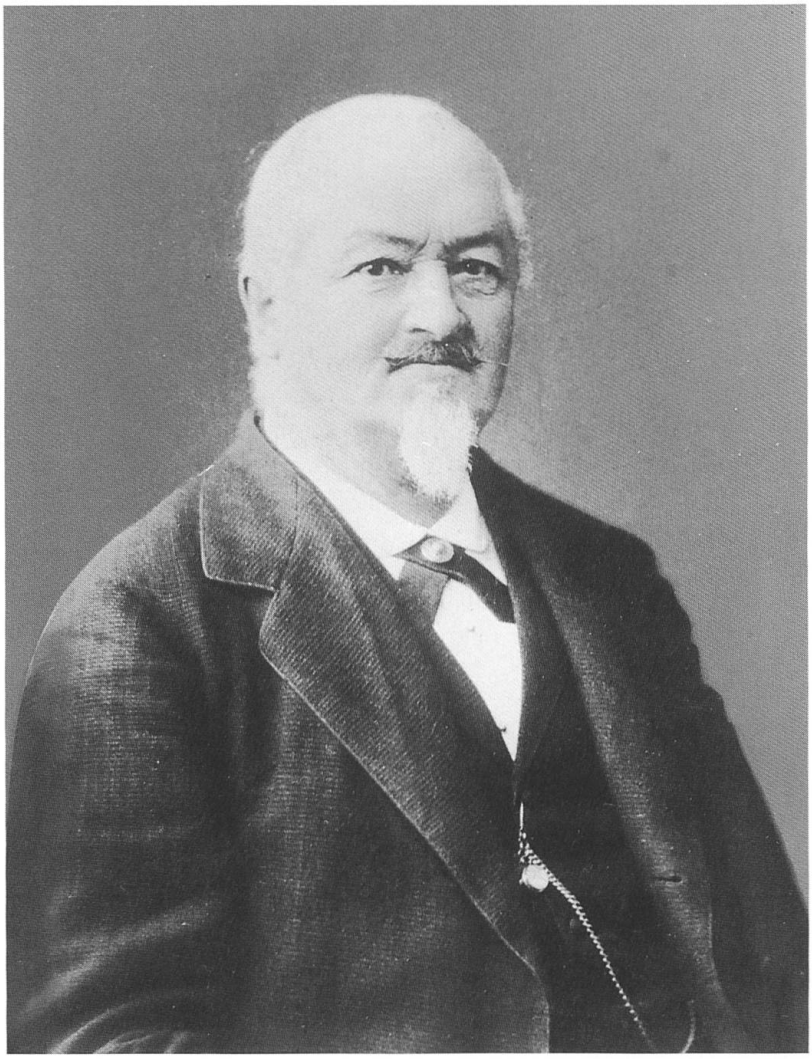
out of the business, his uncle and a number of long-service employees became partners. With the reorganization the leading role of the machine works, which finally began with the extension of the workshops on the convent site in 1854, became increasingly obvious.

. . . and everything coming under the heading of heavy engineering

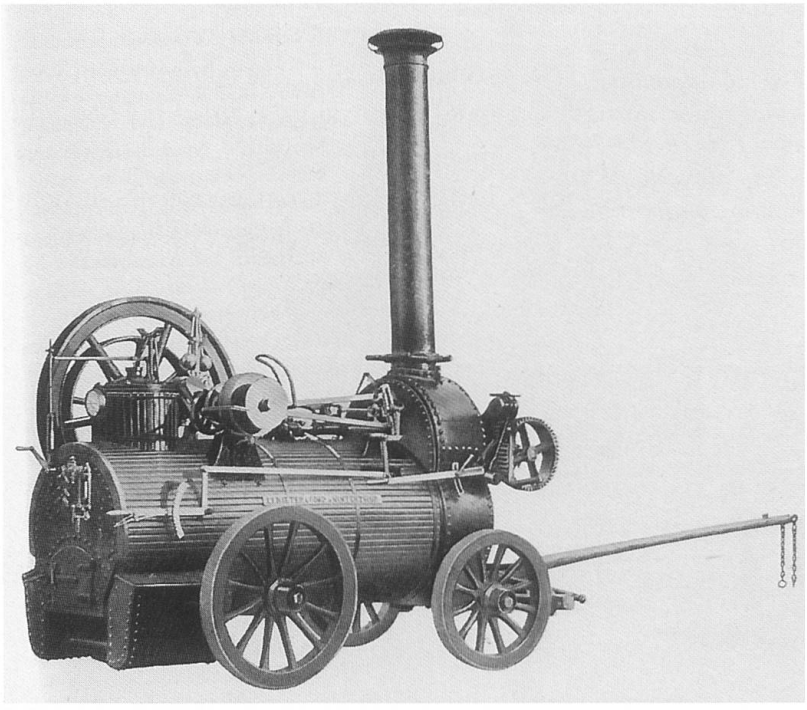
Engineer David Heinrich Ziegler (1821–1901), son-in-law of Heinrich Rieter Jr., played a decisive part in this shift of emphasis. He had gained considerable experience in various metalworking and engineering works in Switzerland and abroad in the construction of locomotives, railway rolling stock, steam engines, machine tools and hydraulic engines, which qualified him to assume management of the new department for turbines, transmissions and machine tools in the convent. To quote from a letter dated February 1854, 'We have equipped ourselves to build steam engines, water wheels, drives, etc.; in short, everything coming under the heading of heavy engineering.'

'Joh. Jac. Rieter & Co., Töss, Switzerland' also built the first passenger aerial cableway in Switzerland. Since there was no service bridge, Rieter erected this cableway – which had machine attendants on both banks to operate the transmission units – in Schaffhausen in 1866. According to available sources, this was probably the second installation of its kind in Europe.

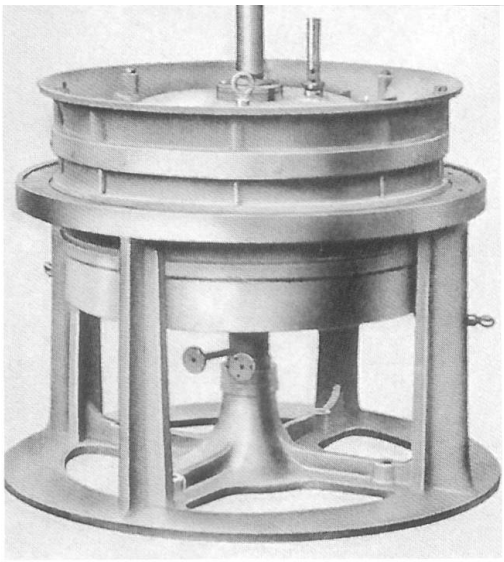
Rieter was a pioneer in the construction of Girard turbines with horizontal shafts and outward flow, the so-called sponge jug turbines, which were successfully exported on the strength of their high efficiency, for example to the Immenstadt twine factory and Società degli Alti Forni in Terni. Further



David Heinrich Ziegler (1821–1901)

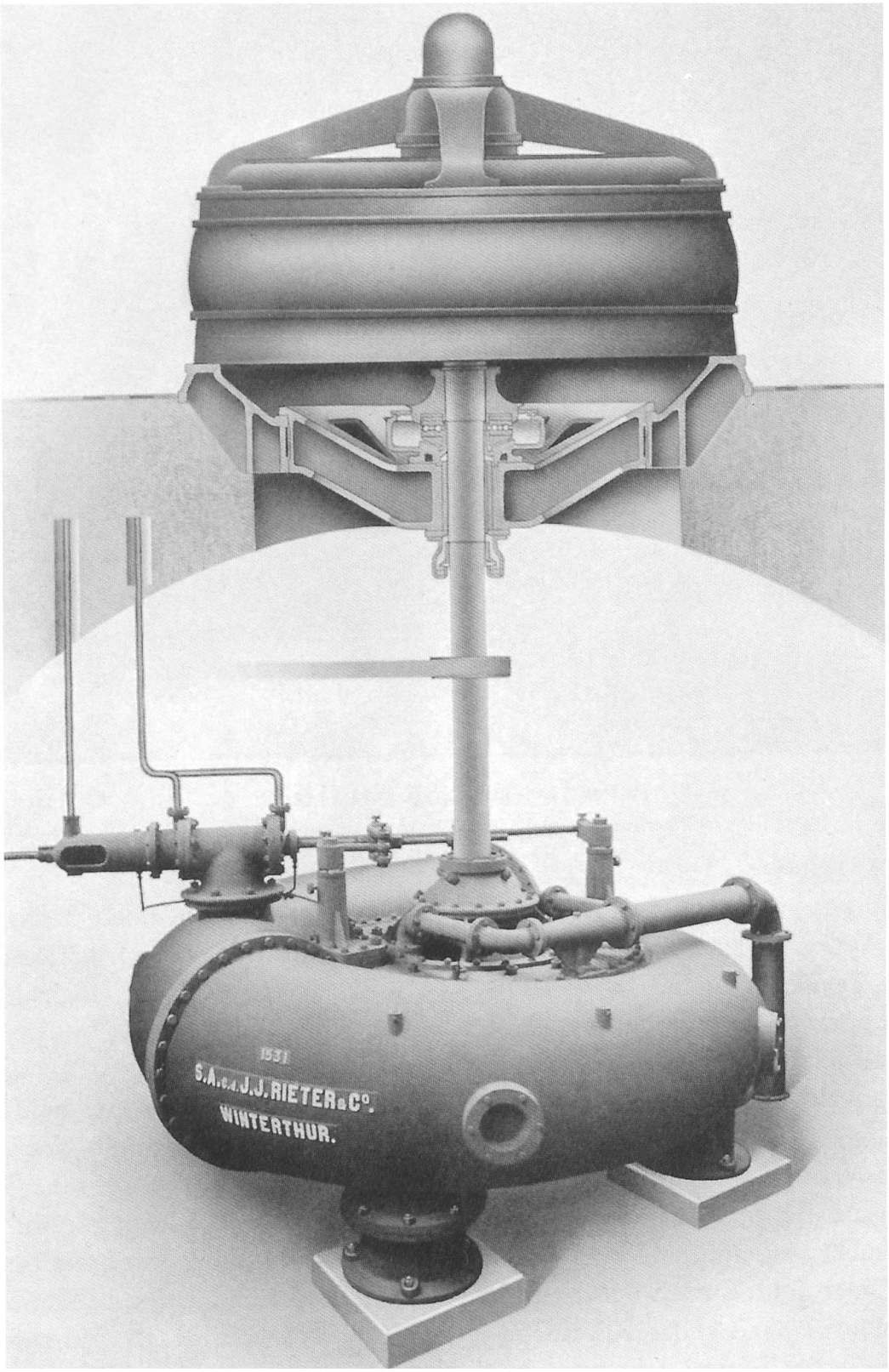


Locomobil

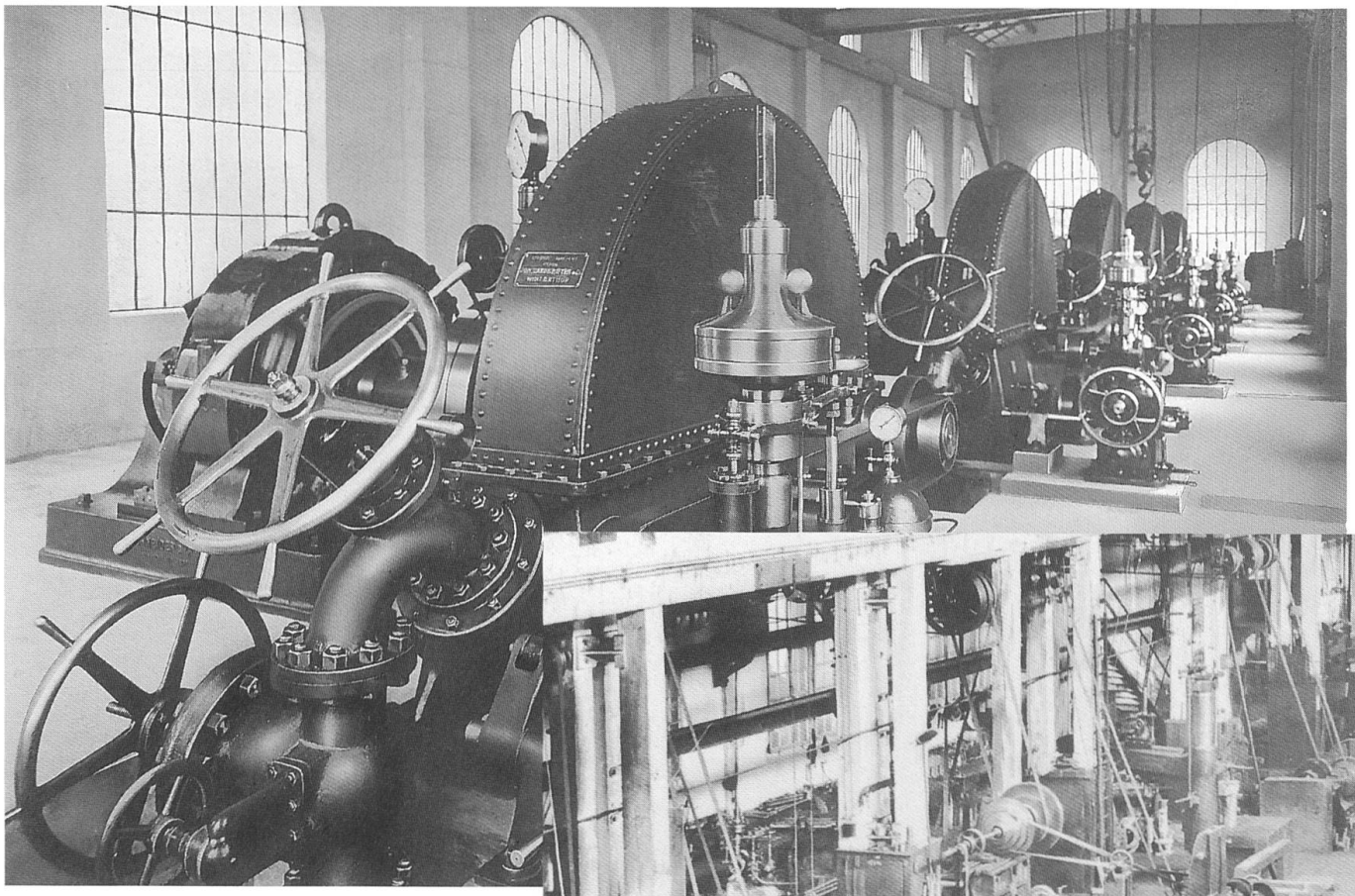


Girard turbine of 1863, 140 h.p.

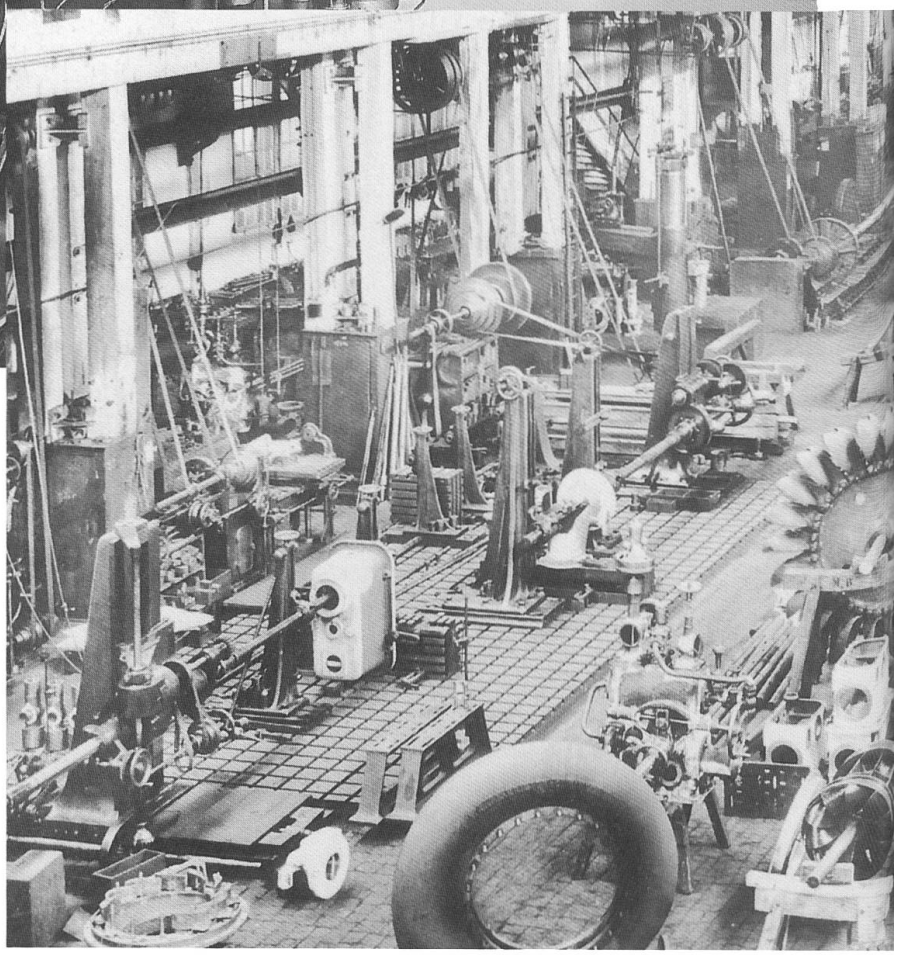
success came with the Francis turbines, especially in the last 25 years of the century. In 1896 Rieter started production of Pelton turbines, and in 1912 it set up a pilot plant for research purposes for the further development of turbines. Despite the company's notable success in turbine manufacture and its vigorous research efforts, this branch of the business was already transferred to Escher Wyss in 1915 as



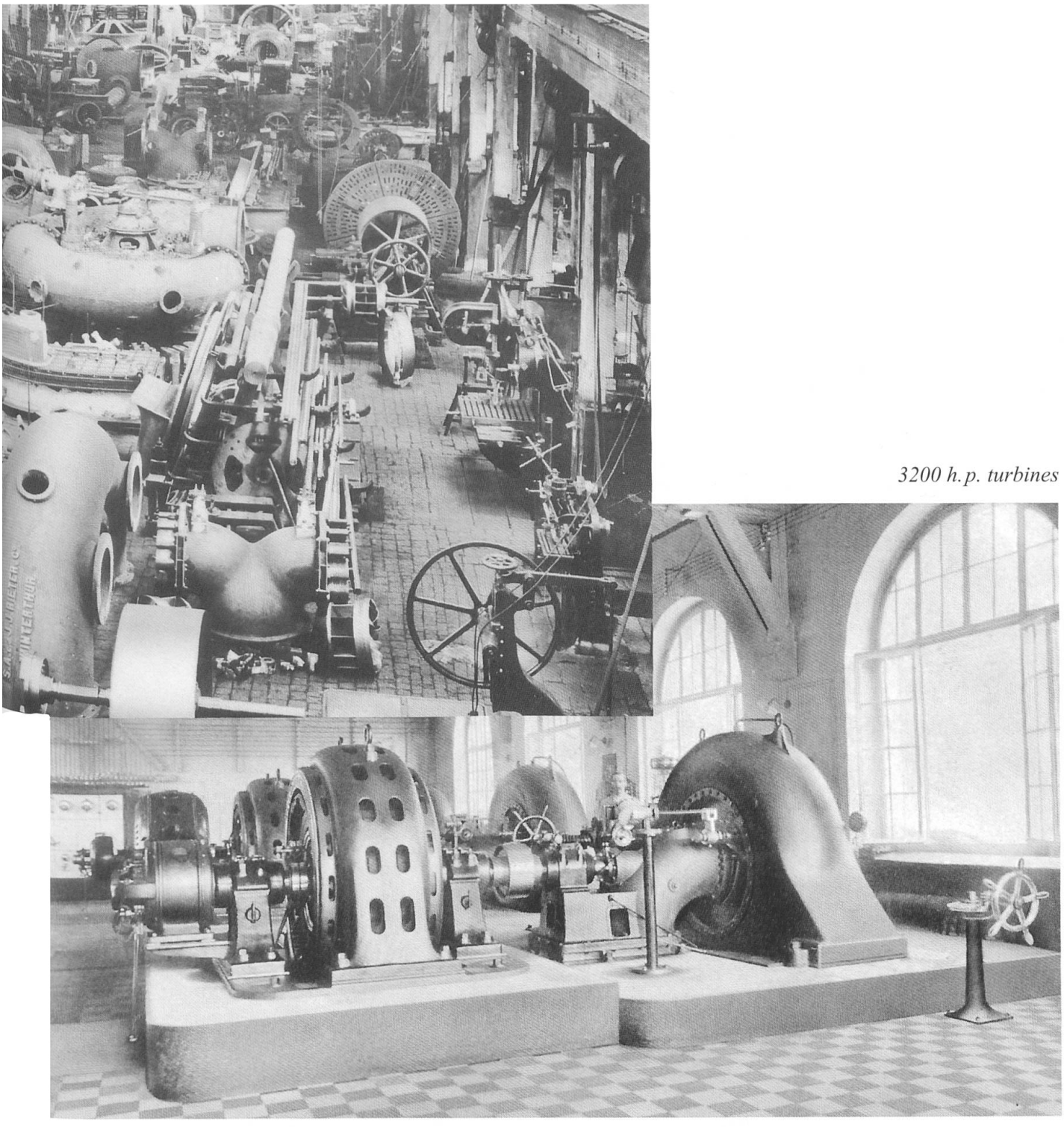
Francis turbine of 1909; 2500 h. p. with ball-bearing mounting for loads of 45 tonnes



Five Pelton turbines, each generating an output of 2500 h.p.



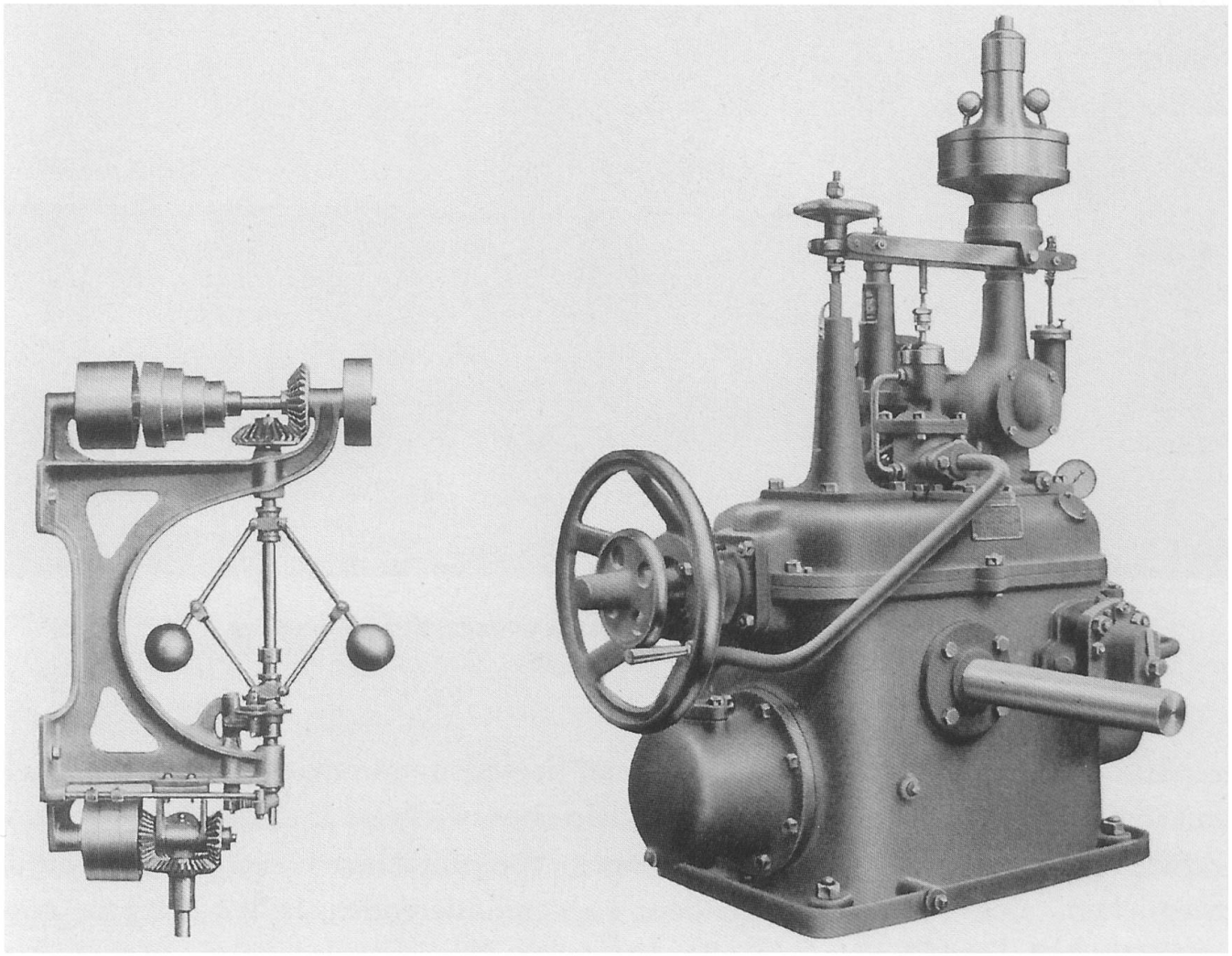
Turbine assembly shop ca. 1900



3200 h.p. turbines

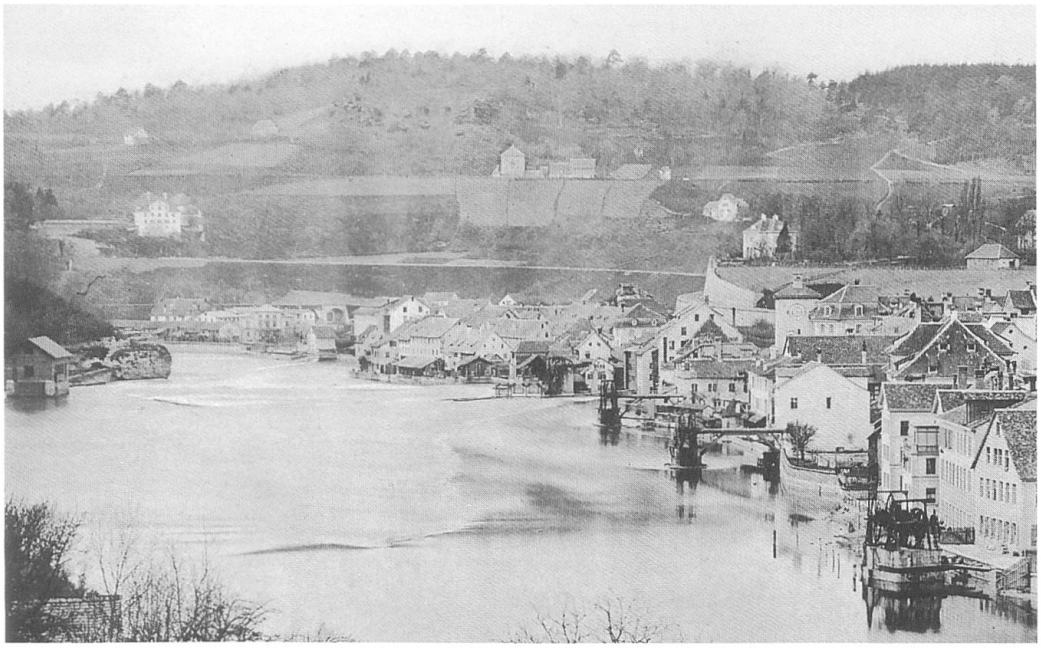
part of the process of restructuring and concentration on spinning machinery manufacture. The outbreak of war in 1914 had lent considerable urgency to this decision.

David Heinrich Ziegler's department had evidently recognized the signs of the times; the rapid advance of industrialization with its heavy demand for water power promised thriving business. Between 1877 and 1915 Rieter supplied no less than 85 turbines of various types to Sulzer Brothers in Winterthur alone. The company also performed pioneering work in the manufacture of accessories for turbine installations, such as screens, sluices and pressure pipes, as well as regulators and transmissions; its cable transmissions became especially famous in Europe. Ziegler's experiments with steam engines after 1855 were also successful, but these activities were not pursued further, either because the company did not want to come into conflict with Sulzer, or because it hesitated to fragment its manufacturing capacity even further. However, machine tools retained their importance in Rieter's production programme; this included smith's hearths, woodworking machines, packing and bale presses, lifts, travelling cranes, dynamometers and reciprocating piston water pumps. This production sector never attained the importance of the two dominant activities, turbine and spinning machinery manufacture, of course, especially since it was also always exposed to keen competition from specialist companies. The department lost all of its existing impor-

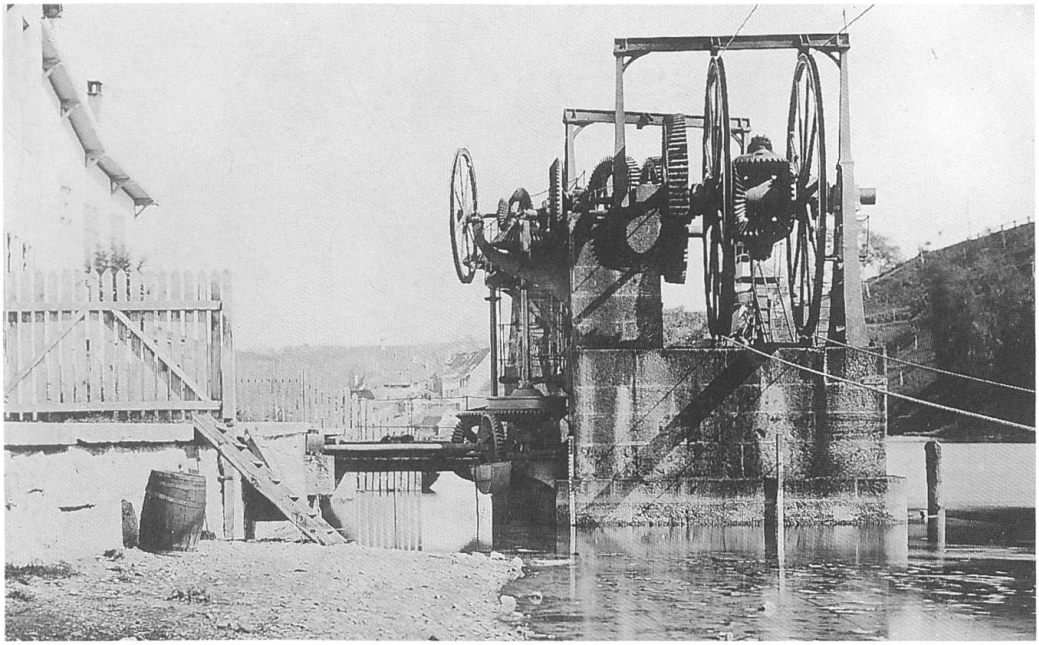


Pendulum and oil pressure regulator

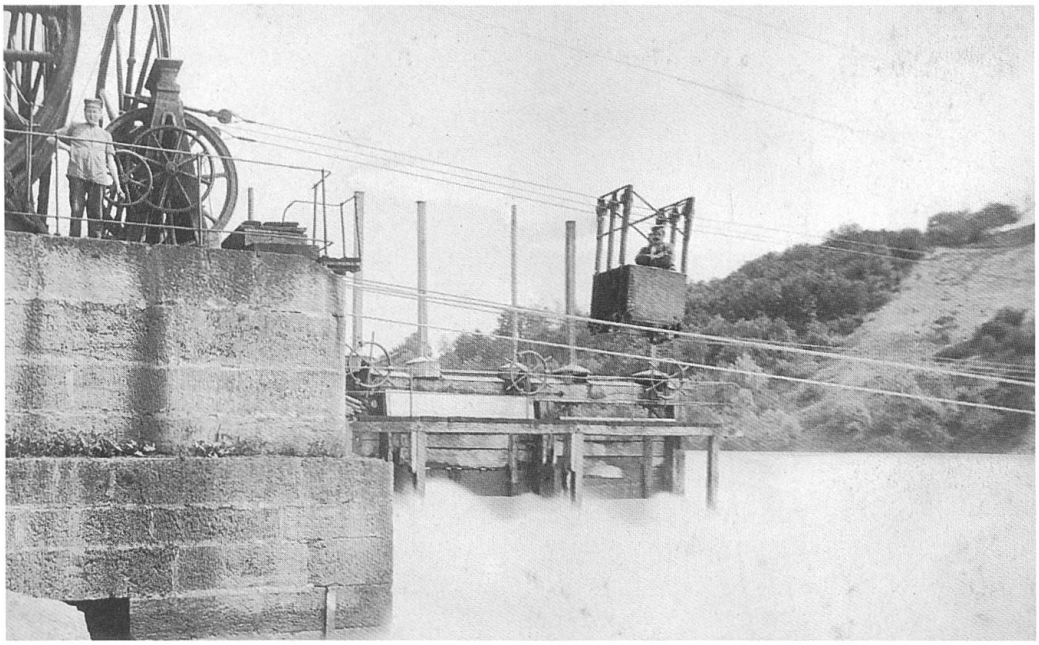
View of the cable transmission installations of the Schaffhausen Water Works Company on the right bank of the Rhine, pictured here ca. 1870

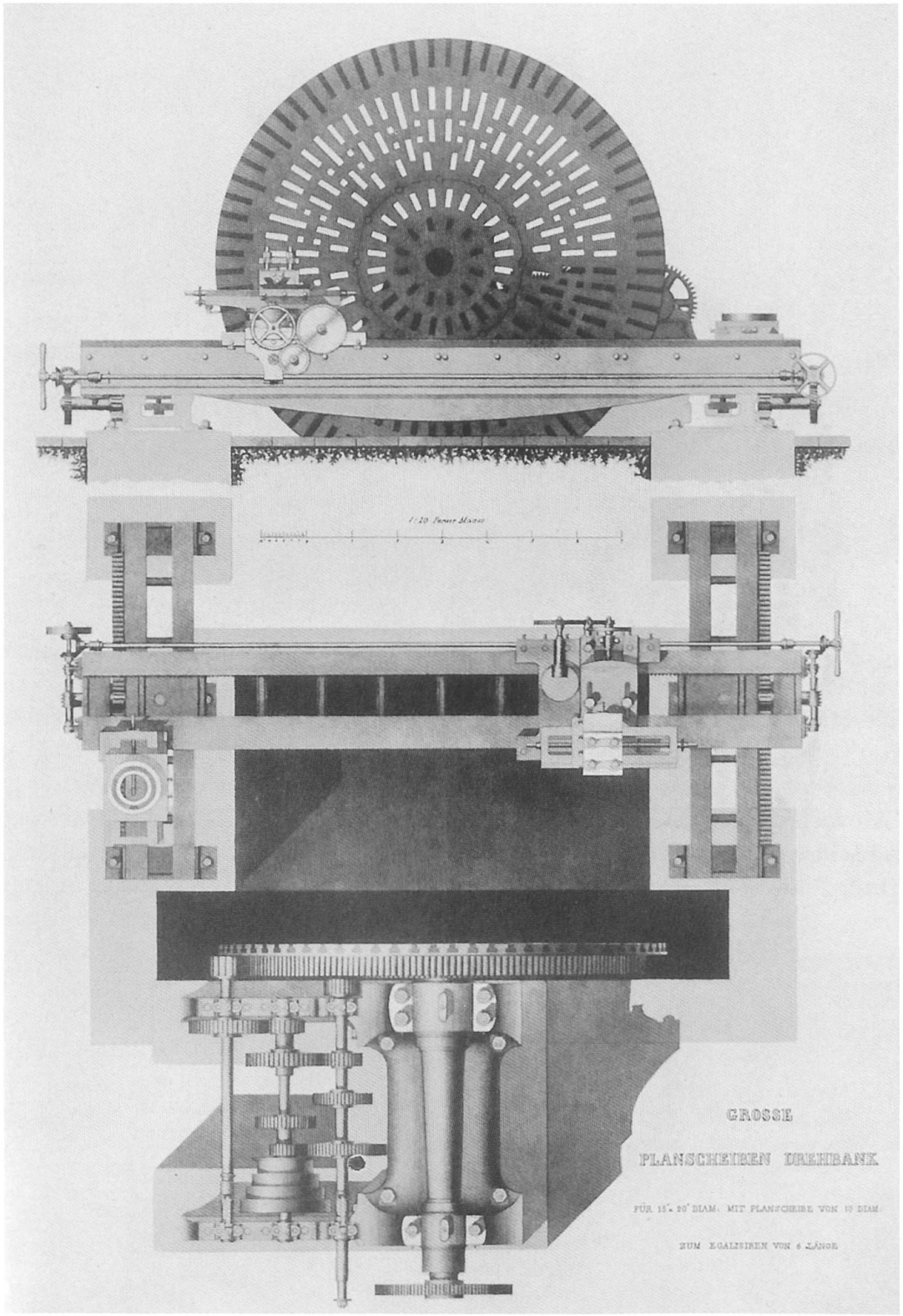


Pillar 4 of the transmission installation which was taken out of service on June 16, 1900



First passenger aerial cableway in Schaffhausen, Switzerland, built by Rieter in 1866





Large surface lathe

tance with the retirement on health grounds of its enterprising head, D. H. Ziegler, in 1881.

The years of rapid expansion

Winterthur's economic development was nevertheless marked by headlong growth during those years, with Rieter participating in many and varied ways, in terms of both personnel and finance.

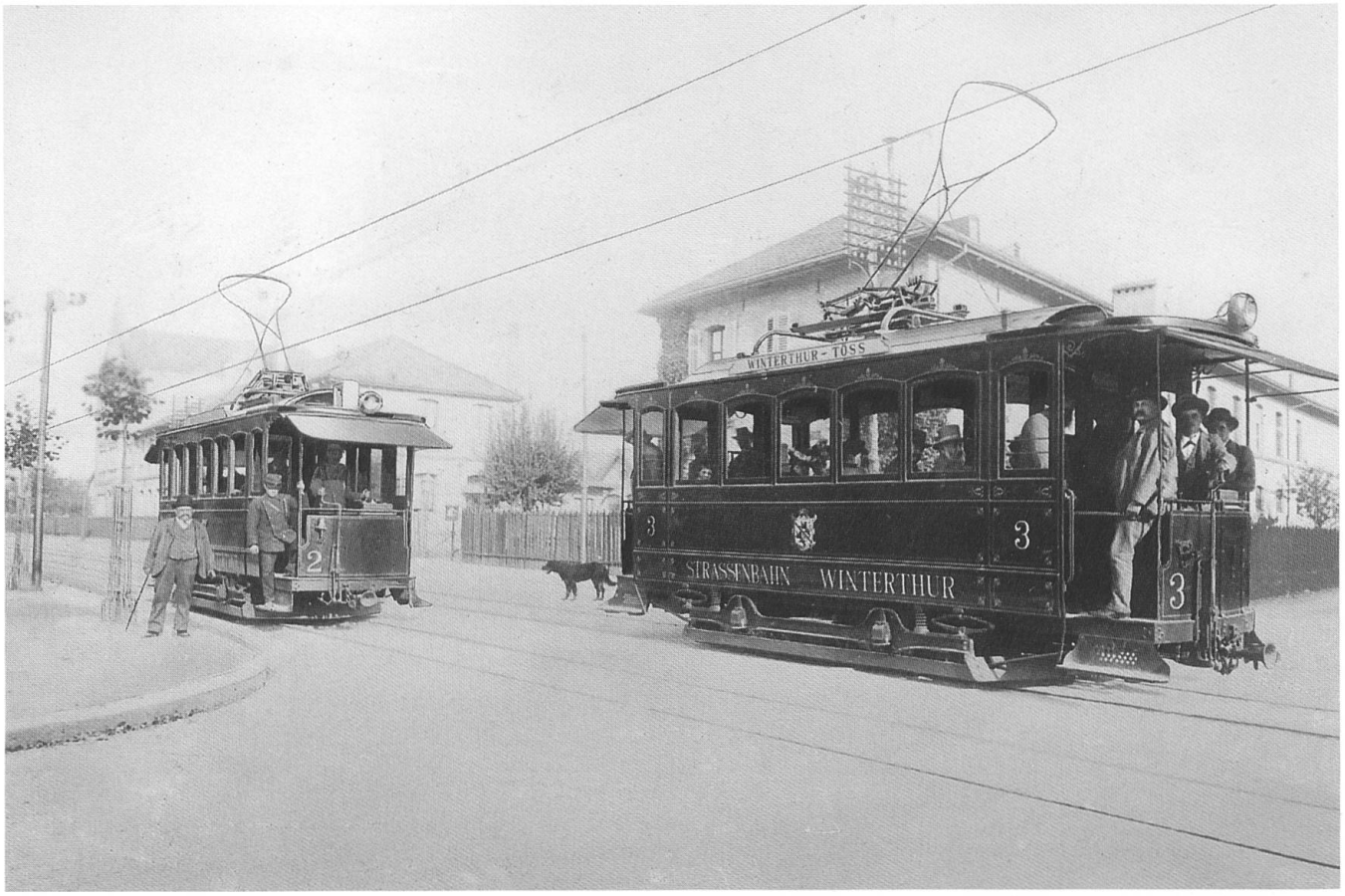
Sulzer Bros. machine works had been founded in 1834, the coffee and cotton trading company Volkart Bros. in 1851, Bank in Winterthur – out of which, together with the Toggenburger Bank, was to emerge Switzerland's largest banking group, Union Bank of Switzerland (UBS) – in 1862. Finally, Hypothekar- and Handelsbank Winterthur was founded in 1865. The creations of the boom years also included

Generator with an output of 100 kW, 1892

the locomotive works in 1871, the silk weaving mill in 1872, and the technical college in 1874. One of the most important foundations, that of the 'Winterthur' Accident Insurance Company, whose main sponsor and first chairman was Heinrich Rieter, came in 1875. The national railway collapse of 1878 was, of course, a severe setback both for the city authorities and for local business; sales abroad also deteriorated markedly in those years.

Electric power stations and railways

In addition to the mechanical aspect of engineering, the rapid development of electricity opened up a new field of industrial activity for the Rieter company. In particular, it was hoped to be able to supply electrical equipment together with turbines in future. The growing demand for individual electric motors to power travelling cranes, lifts, pumps, machine tools and spinning machinery and for equipping industrial installations generally with electric lighting promised good business. Numerous local authorities had complete electric power stations built by Rieter, including Rüti in Canton Zurich, St. Moritz, Samedan in Canton Grisons and, in 1903, the city of Winterthur. Many orders were received from abroad, where Rieter had a good reputation, for example in India. The construction of electric railways assumed growing importance at that time. In 1897 Rieter accepted the contract for electrifying the horse-drawn trams which had connected Winterthur railway station and the Töss 'convent' for the previous twenty years. Similar contracts, for example to build electric mountain railways,



Winterthur–Töss tramway, 1897

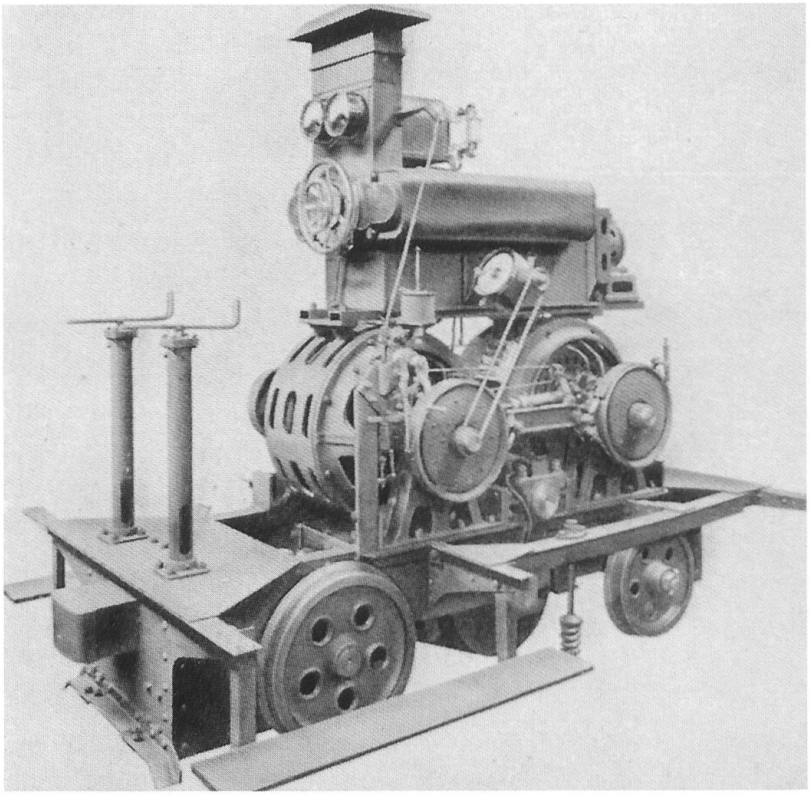
were awarded in Switzerland and abroad.

The contract to build the Vesuvius Railway (1905) was an especially spectacular success. However, the project to build a railway through the Mesocco valley was ill-starred; irritations and losses in this connection, and not least the increasing specialization of the electrical industry, persuaded Rieter to wind down its electrical engineering department from 1905 onwards. For similar reasons, railway engineering and machine tool products also gradually disappeared from Rieter's manufacturing programme.

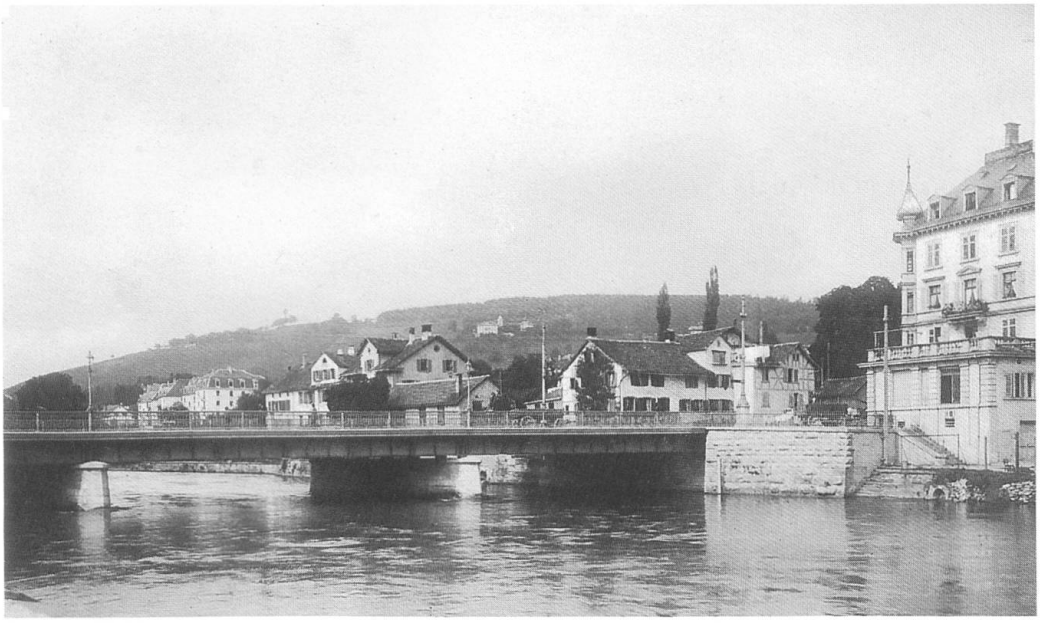
Bridgebuilding

The life of the structural steel and bridgebuilding department was even shorter. Rieter completed a number of noteworthy contracts between 1895 and 1901 (road bridge at Wipkingen, bridges over the Thur at Nesslau and over the Landwasser in Davos, retort buildings for the gasworks at Winterthur and Herisau, roofs over the

Power plant for the locomotive of the Brunnen–Morschach rack railway, 1905



Road bridge at Zurich-Wipkingen

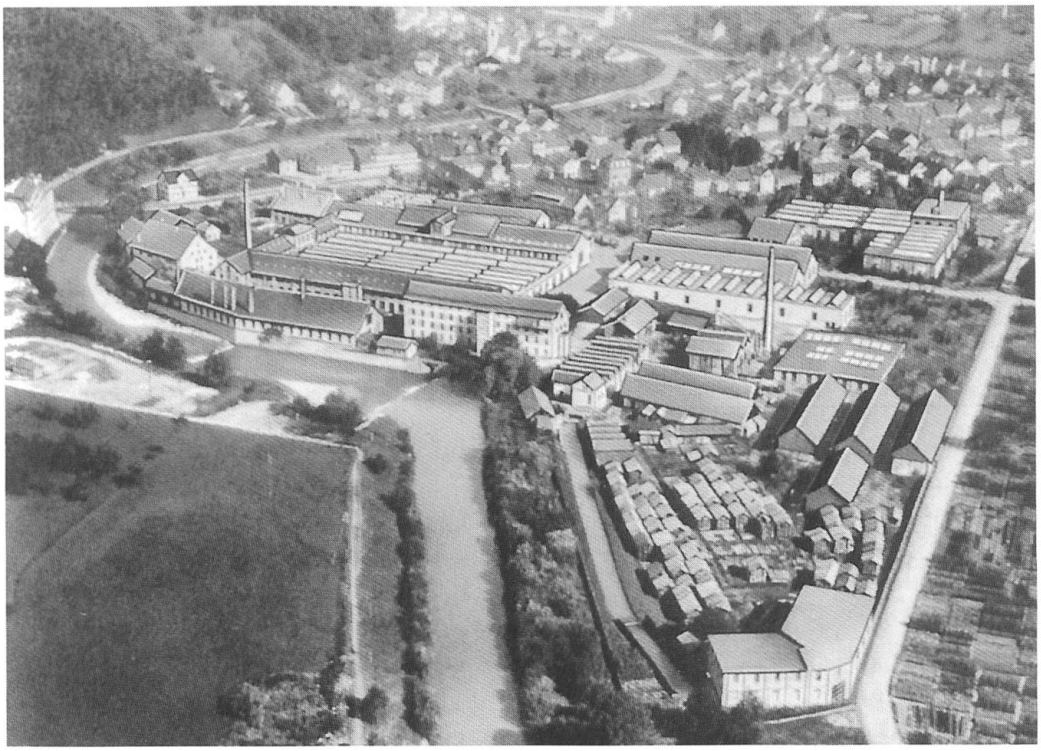


platforms at Zurich's main railway station, etc.). The serious crisis in Swiss engineering at the beginning of the 20th century soon put an end to this work. At the same time the growing need to enlarge the workshops and equip them better for the numerous departments showed up the limitations of the company's widely spread industrial activities. A streamlining of the manufacturing programme had to be considered in order to avoid overstretching the company's limited resources.

Casting

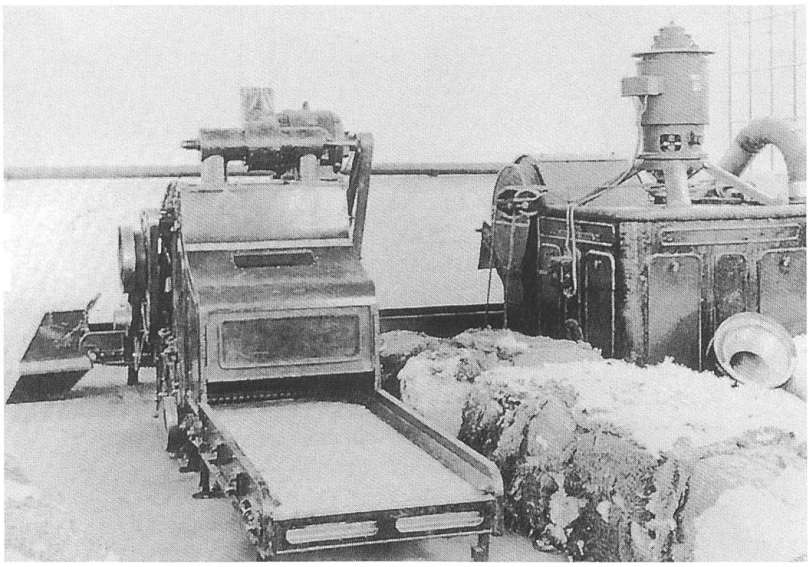
Rieter had obtained castings from Sulzer and from St. Georgen for decades under long-term supply contracts for the two main departments of spinning machinery and turbine manufacture. The company's primary costs were reduced substantially by building its own foundry on the rectory site on

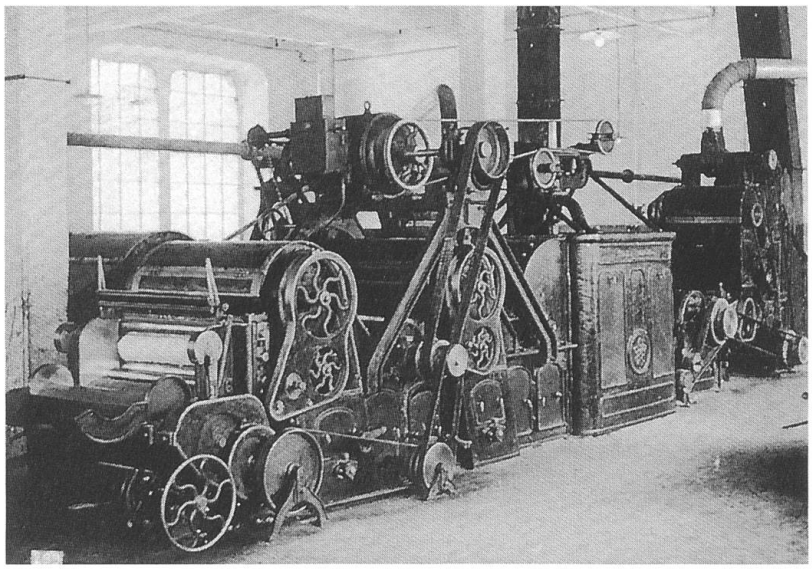
The machine works ca. 1931, with the foundry on the «rectory» site



Klosterstrasse which had been purchased in 1907. From the outset, the foundry's task was to supply the Rieter workshops with the necessary grey cast iron in good quality, on time and at low cost. The foundry was continuously expanded and modernized as demand increased.

Large numbers of foundries worldwide have had to discontinue operations permanently as the industrial history of the 20th century draws to a close. Many objective and human reasons can be cited for this trend. As a result of systematic, large-scale investments, for example in an environmentally friendly cleaning shop (1970), the new electric smelting furnace (1973), highly mechanized moulding lines (1982, 1989), zinc and aluminium pressure die casting systems with rotary charging (1982/1985), and especially also intersectoral marketing, Rieter's foundry operations have been very successful to date. In the meantime the opening-up of eastern Europe and Asia has intensified competition considerably.

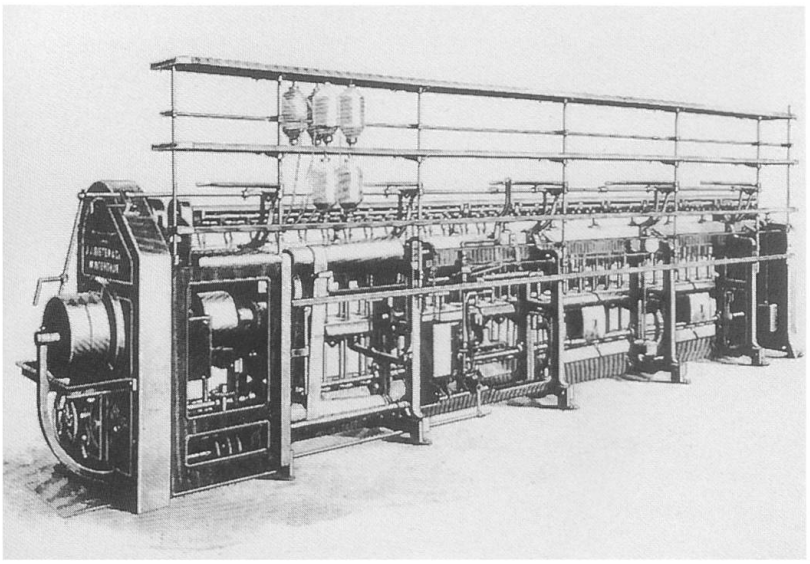


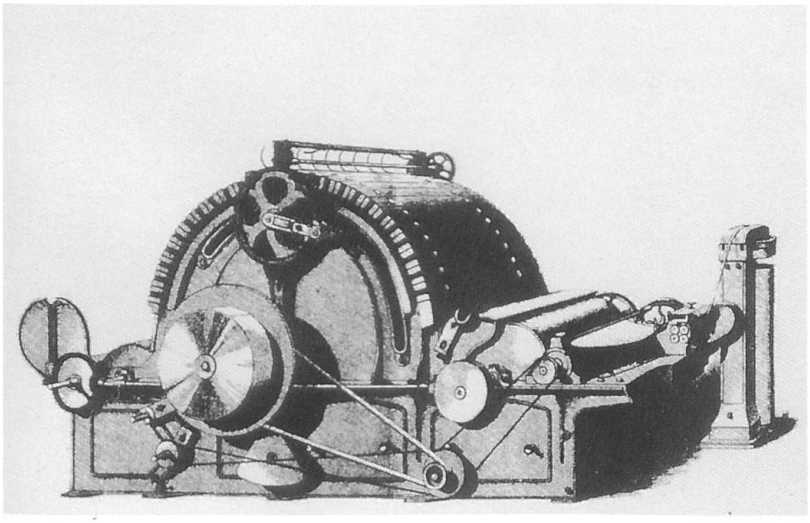


Cotton cleaning: bale breaker and Crighton opener (top); double scutcher (bottom)

Textile machinery manufacture

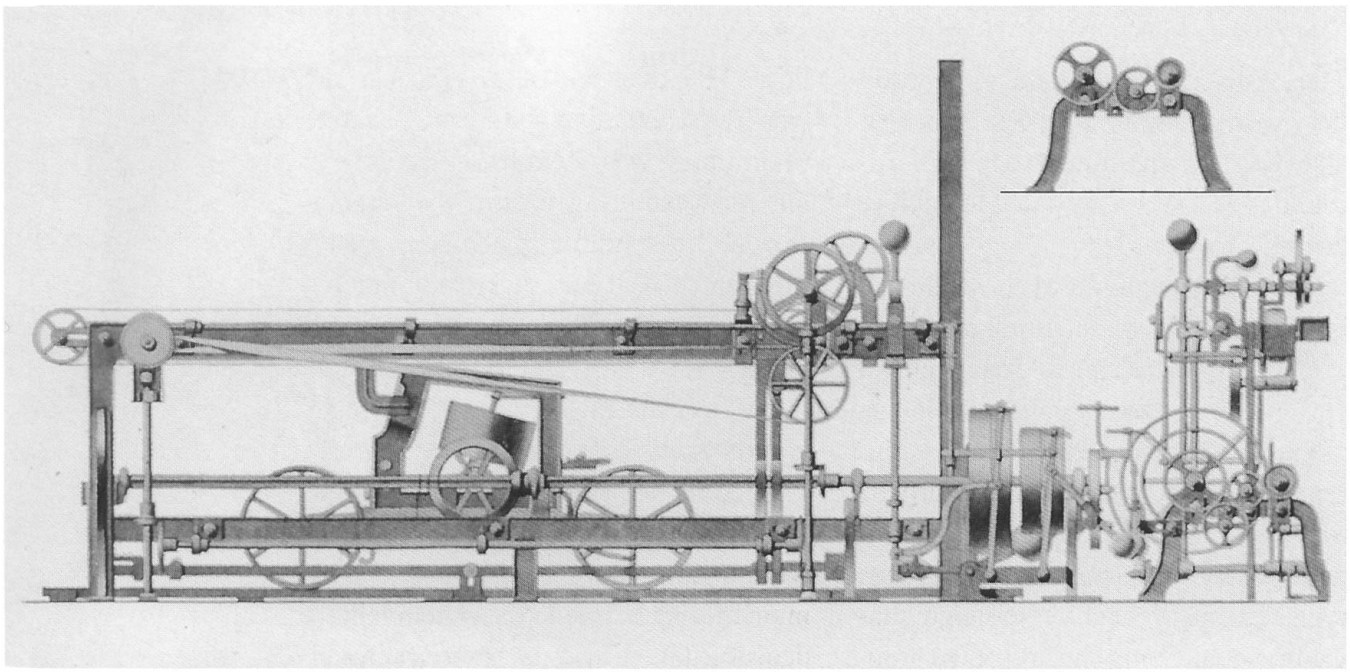
Spinning machinery manufacture remained the backbone of the company even during the decades when the workshops in Obertöss were being expanded and new sectors of mechanical engineering were systematically being added during the second half of the 19th century. Continuous improvements and prudent sales policies in which the development and cultivation of relationships of personal trust with customers were given priority supported sales of spinning machinery in Switzerland and abroad. Primarily eastern Switzerland, together with Austria, Germany and Italy, were consistently the main markets. Orders for spinning machinery often also included the simultaneous supply of turbines and transmissions. Close contacts with St. Gall, the centre of Swiss embroidery, even led to the inclusion of embroidery machines in Rieter's production programme. The shuttle embroidery machine of Isaak Gröbli (1822–1917), who worked temporarily at Rieter while this technology was being developed, attracted special attention. But this new sector was already abandoned again around 1890 due to the lack of follow-up orders and the fact that the market was dominated by specialist competitors.

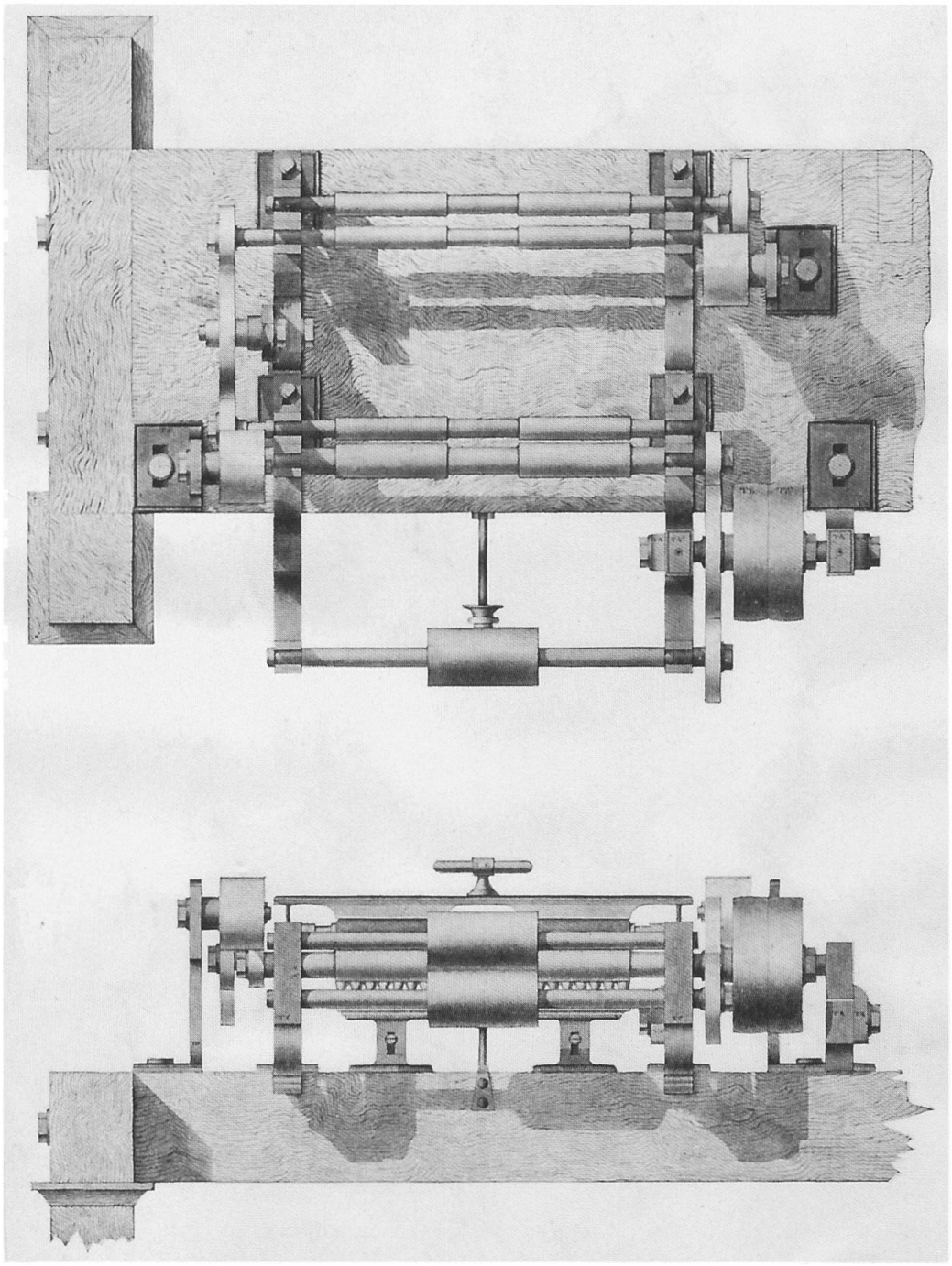




Speed frame (top) and card (bottom) from ca. 1870

Mule Jenny with spline shaft (1842)

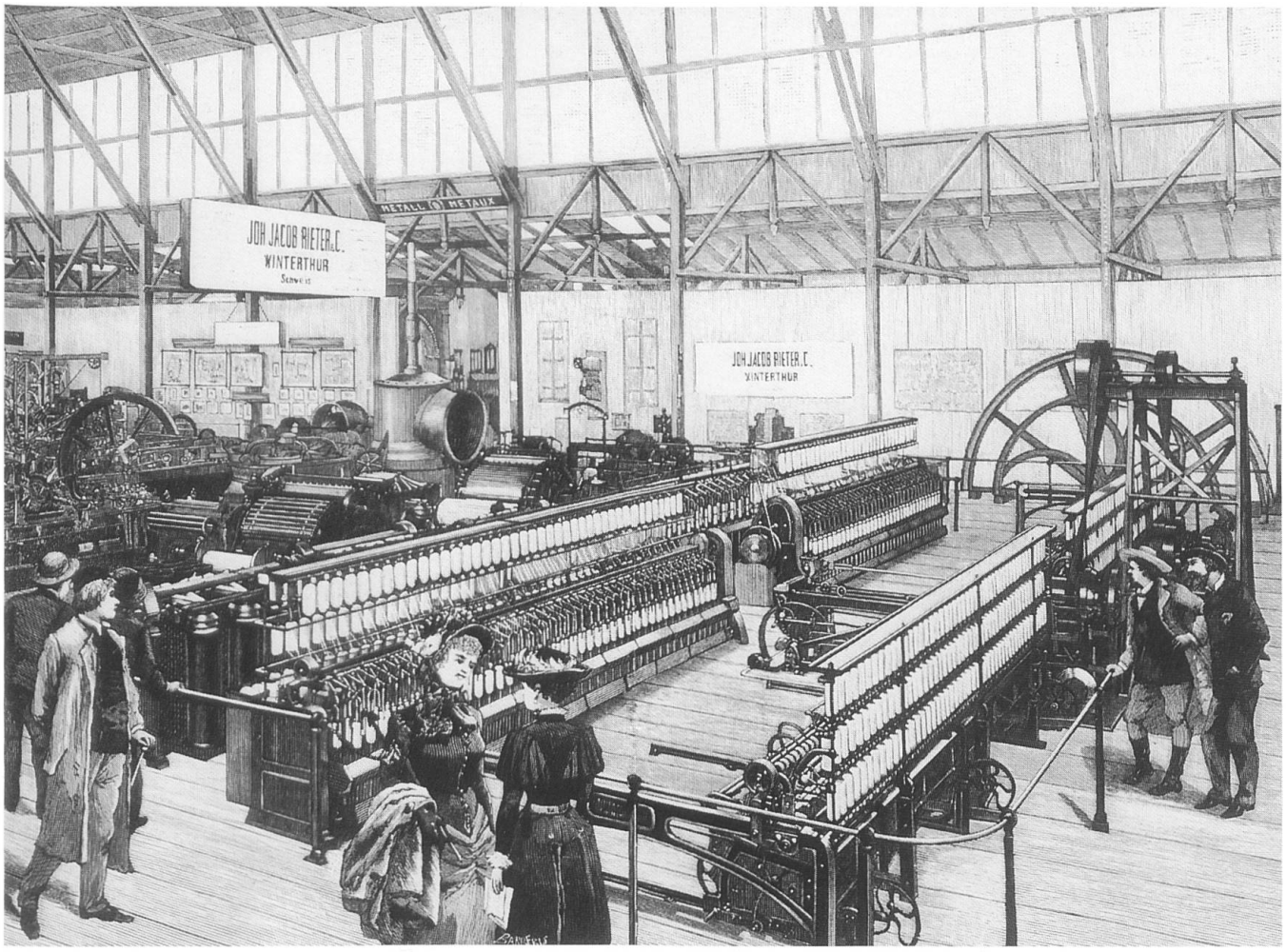




Drawframe (from an old drawing, probably dating from 1823)

The Wülflingen mechanical embroidery works, in which J. J. Rieter & Cie. also had an investment when it was founded in 1870, also failed to achieve lasting success.

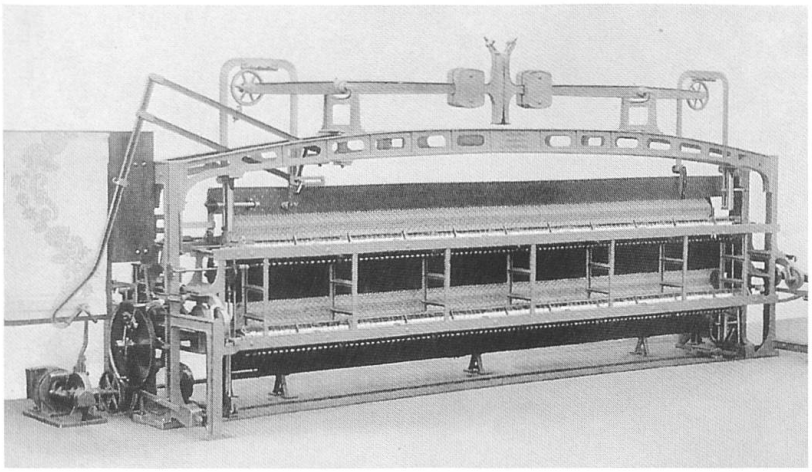
The reorganization of the company in 1914 marked the beginning of a reorientation in technical management and a move towards concentration in manufacture. Complete cotton spinning machine systems, an improved ring spinning frame, advances in spinning technology and the continuous replacement of machine tools guaranteed the quality and success of the products. The decades of diversification were left behind and the production programme was focused on the original manufacturing sector, the manufacture of spinning machinery. Maschinenfabrik Rieter therefore quickly succeeded, after the eventful years of World War I, in regaining the ground lost as a result of the war and far outstripping its own textile operations. The company survived the crisis of 1922 and that of the nineteen-thirties without any loss of substance. It remained largely true to the fundamental decision taken in 1914 to concentrate



Spinning machine in the machinery hall at the 1883 Swiss National Exhibition

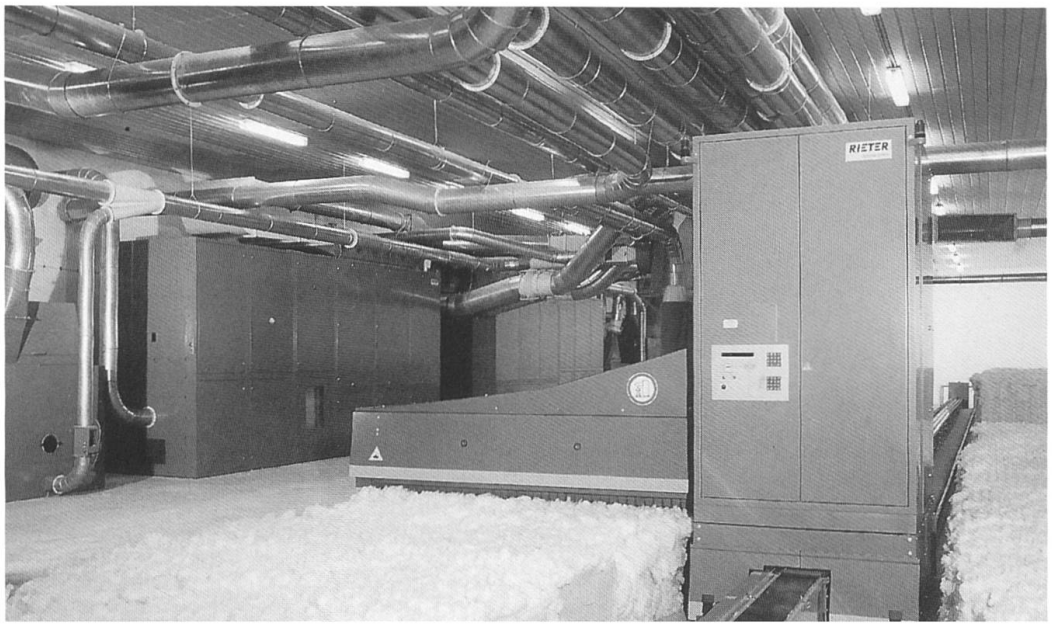
its resources. There was, of course, no shortage of adversities and critical situations during the war years from 1939 to 1945. However, far-sighted action by the authorities and within the company meant that there were no serious dislocations. In the spring of 1945, the new management stood at the start of a new chapter in the company's history and at the same time, as it was to prove, at the beginning of an unprecedented boom, abetted not only by the virtually undamaged production facilities in Switzerland, but also by the start of vigorous industrial development and reconstruction in Europe. With the clear target of continuing to concentrate exclusively on spinning machinery manufacture, the existing, efficient plant of Maschinenfabrik Rieter AG has been modernized and expanded systematically since 1945.

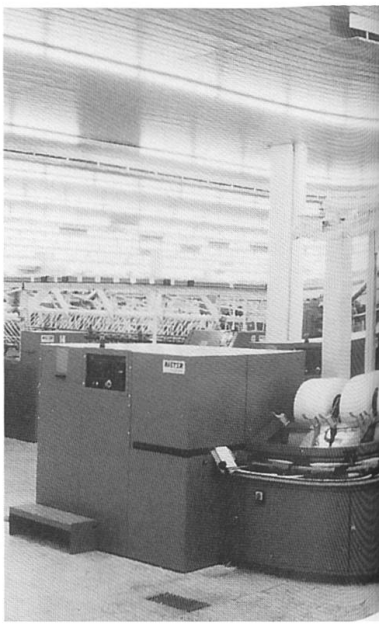
Shuttle embroidery machine



With numerous innovations in spinning subassemblies, machines and systems, the company repeatedly played a pioneering role, for example in opening and cleaning, carding, drawing, and especially combing. Rieter was also well placed in the development and automation of ring spinning operations. Timely moves were made to introduce new production processes

1

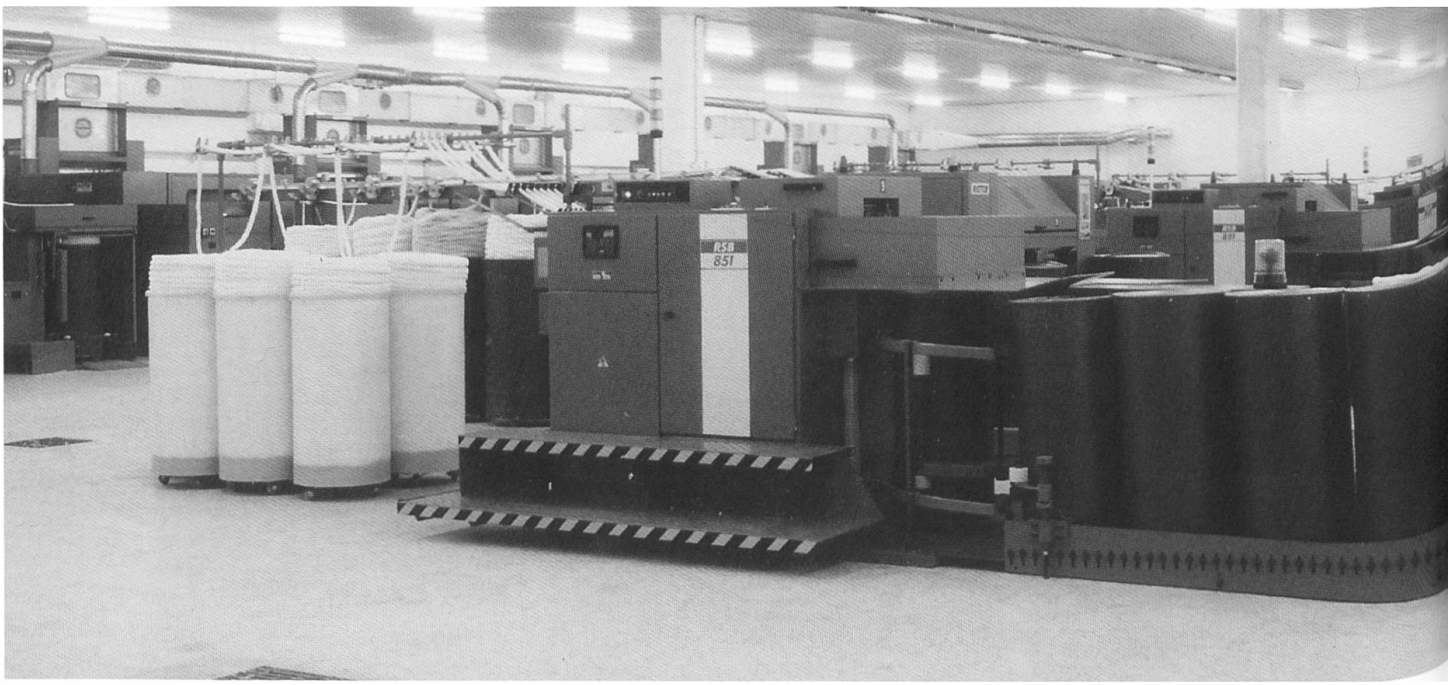




2

Modern spinning machines and installations for the staple fibre sector

3



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1 *Opening and scutching line*

2 *Cards*

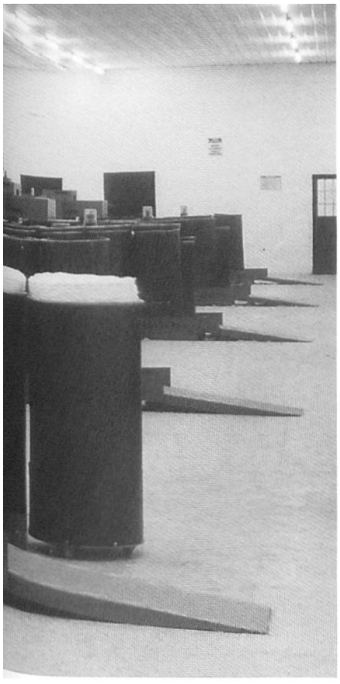
3 *Drawframes*

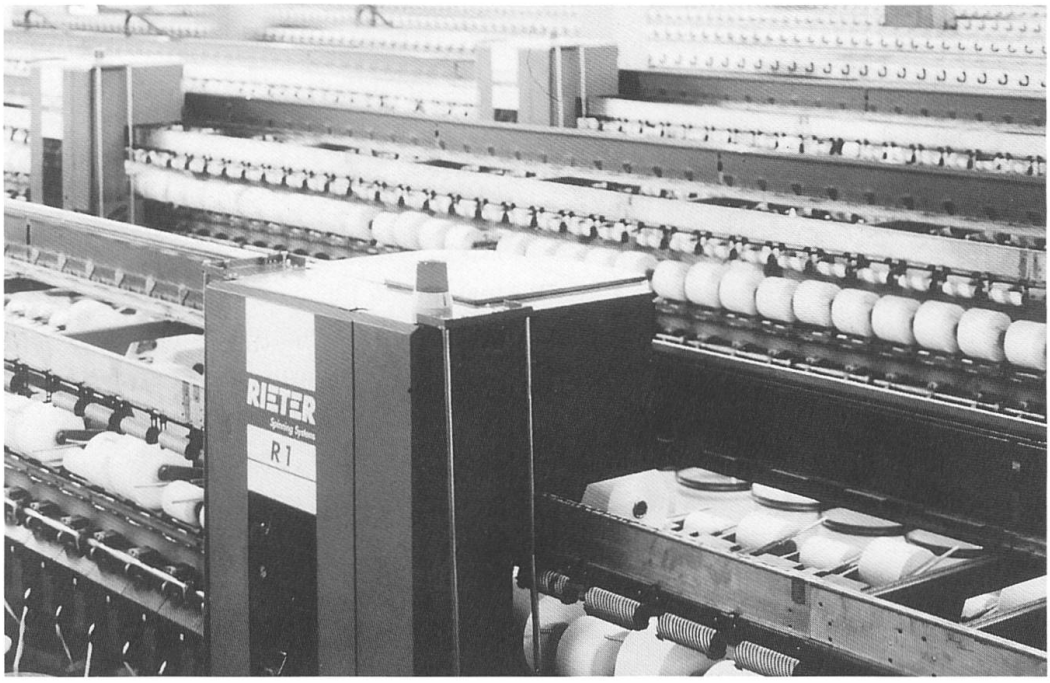
4 *Combers*

5 *Ring spinning mill*

6 *Rotor spinning machines*

5





6

with technical improvements. Open-end spinning, an alternative to ring spinning, can be cited as an example of this.

Since 1949 close attention has also been paid to continuous man-made fibres and filament processing machinery. Automation was also taken into account in the shape of electro-pneumatic and numeric machine controls. Rieter's new designs attracted considerable attention at the regular international textile machinery exhibitions (e.g. ITMA) and in the marketplace.

The external appearance of the company has also been thoroughly changed in the past fifty years. For example, the favourable trend of business enabled the plant in Obertöss to be extended considerably. The workshops and offices occupying the historic buildings of the Töss convent were extended systematically on the basis of overall concepts drawn up at an early stage. The increased demand for office premises resulted in the addition of further storeys to the administration building and the incorporation of further office wings. The old workshop buildings were replaced by large factory shops, and the waste ground on the recently acquired neighbouring site had to make way for further factory and storage premises and extensive car parks for the increasingly motorized personnel. The extensive mechanization of the foundry was followed by a new building for the automatic casting store and a novel electrophoretic coating line. Modern laboratories were equipped for materials testing and research. In order to handle company accounts, Rieter, after initially using punched cards from 1948 onwards, was the first machine works in Switzerland to move to electronic data processing for commercial applications in 1959.

After the very early use of NC and CNC machine tools, a sophisticated CAD/CAM system was employed on an industrial basis as from 1985. The Rieter company thus remained true to that pioneering approach which was behind the installation of the first telegraph station in the Töss factory in 1867.

Research centre

In 1962 Rieter made a significant step into the future with the opening of its research centre in Niedertöss. In those years when the machine works had far outstripped the spinning operations in size and importance, Rieter progressively acquired the shares of the Niedertöss spinning and twisting mill and decided to close down its operations. The premises which thus became available – in earlier days the cradle of the machine works – offered ideal conditions for the large-scale, practical expansion of research facilities, which alone promised to assure the future of the company in face of the rapid pace of technical progress. Systematic research and development (R & D) had always been given special attention at Rieter – originally on a craft basis. This approach to operations is ultimately the basis of efficiency and quality.

In the age of science-based systems extensive space was thus created for research in 1957 by the construction of new premises in the 'convent'. The large number of experimental machines, the associated laboratories and test workshops soon proved too small. The opportunity to set up a pioneering R & D centre in Niedertöss was therefore gratefully seized in 1962. Major extensions of which Rieter has good reason to be proud were made between 1970 and 1973 and again in 1990 by a series of new buildings.

Research and development centre in Niedertöss

Welfare and training / further education

The acquisition and provision of healthy and low-cost residential accommodation for personnel and their families has always been a particular concern of the Rieter company. In the interests of retaining a basic stock of personnel through times of crisis, the company had earlier gone its own way and sought original approaches. For example, in 1865 – when it was usual only to provide so-called 'boarding-houses' – Rieter was the first Swiss industrial company to build a real workers' housing estate with separate semidetached houses and gardens. The tenants only had to pay low rents, but had to take out life insurance, a skilful method of linking housing welfare with provision for old age. It was indeed a pioneering move by Heinrich Rieter, which was copied by many in this field in Winterthur, above all in the 'Society for the Construction of Low-cost Residential Housing'. Rieter himself also continued to build inexpensive housing for his workers, first on Klosterstrasse, Rosenstrasse and Ebnetstrasse. This work was subsequently continued in the city and the region. Buildings further afield were acquired over the years as investments for company foundations and associated cooperatives. Rieter real estate management is therefore responsible for an average of 1010 homes and a further 1120 rented premises such as garage space or hobby rooms as this volume is published. Some 400 Rieter staff can also make use of mortgage facilities for single family homes or condominium apartments. A further two dozen apartments are available for Rieter personnel in the Töss Centre, a centrally located property development with supermarkets, individual shops, service operations, a hotel, res-

Workers' housing estate in Töss, under construction from 1865; shown above on a photograph ca. 1870, below after the latest renovation

Low-cost housing at Dättnau, built by Rieter for its employees

The training centre, built in 1990 and used mainly for customer training

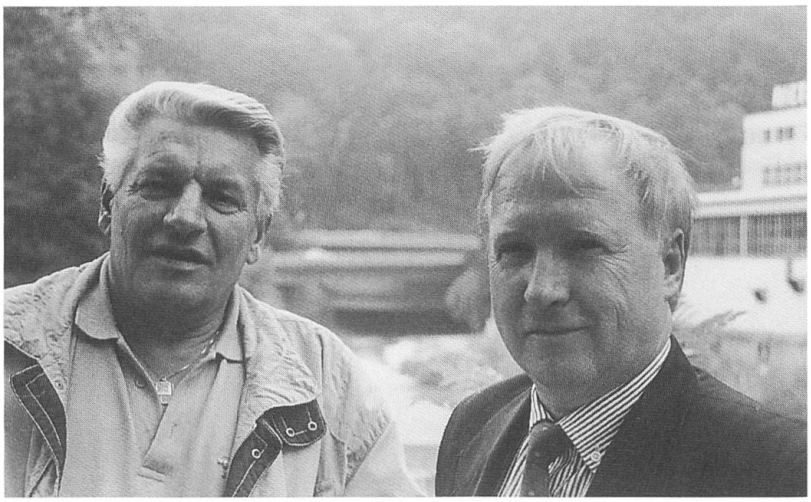
taurant and meeting rooms. This centre was originally built in partnership with the city of Winterthur and 'Winterthur' Insurance, and sold to Hugo Erb AG in 1989. It has become a favourite meeting place for the population of Töss, and it is now difficult to imagine the city landscape without it. Since 1951 the company has had a modern personnel restaurant, which was extensively enlarged in 1961.

The new Training Centre in the immediate vicinity came into operation in 1990. This comfortably accommodates customer training, internal training events, meeting and conference facilities. These premises are also available to outside users wherever possible.

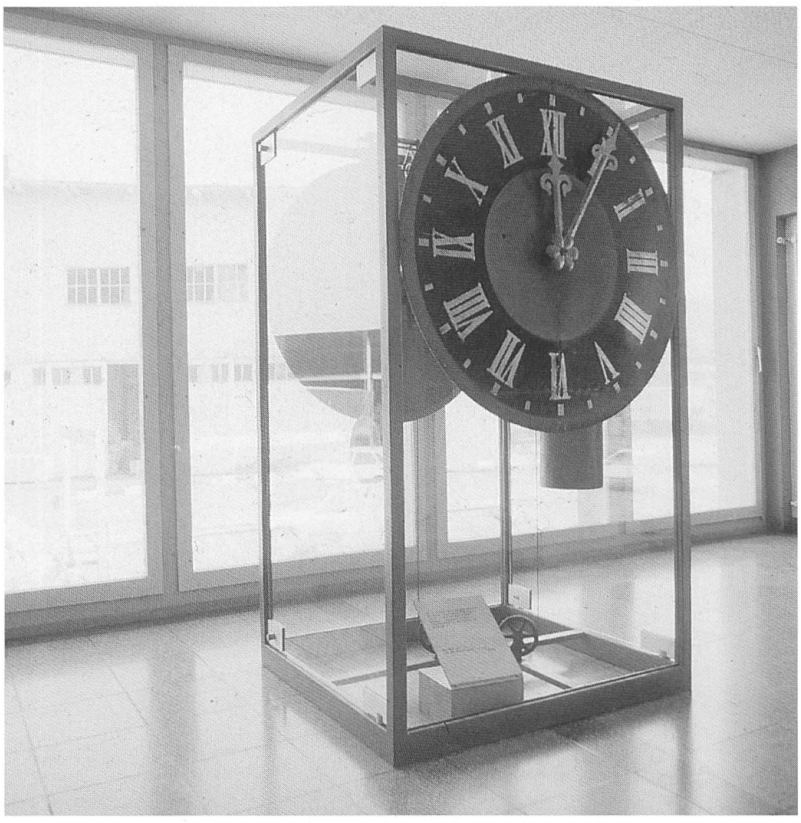
Rieter introduced an employee share ownership scheme in 1975. Since then, long-serving personnel are awarded additional recognition in the form of participation certificates which give them a financial stake in the company and thus strengthen mutual ties.

Many other achievements such as the pension fund, the suggestion scheme, apprenticeship training, man-

agement training, the personnel magazine (since 1956), events for veterans and pensioners, winter and summer sports days and a varied programme of courses and further training underline the company's principle of maintaining natural and informal relations with its personnel. Frank contacts between employer and employees are conducted through the production and clerical personnel committees.



The chairmen of the employees' representative bodies (1994): Marcel Würgler (left), chairman of the production personnel committee; Albert Rüegg (right), chairman of the clerical personnel committee



This tower clock graced the old mill building in Obertöss. It was restored by apprentices in 1978.