

<b>Zeitschrift:</b>	Swiss pioneers of economics and technology
<b>Herausgeber:</b>	Association for Historical Research in Economics
<b>Band:</b>	4 (1994)
<b>Artikel:</b>	From Schmidheiny to Schmidheiny
<b>Autor:</b>	Staub, Hans O.
<b>Kapitel:</b>	Jacob Schmidheiny I (1838-1905) : "I want to be a manufacturer"
<b>DOI:</b>	<a href="https://doi.org/10.5169/seals-1091181">https://doi.org/10.5169/seals-1091181</a>

### **Nutzungsbedingungen**

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

### **Conditions d'utilisation**

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

### **Terms of use**

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

**Download PDF:** 18.01.2026

**ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>**

*Jacob Schmidheiny I,  
1838–1905*



# Jacob Schmidheiny I (1838–1905)

«I want to be a manufacturer»

<u>Joh. Engster</u> de Joffe von Berneck/62	"	"	"
<u>Jacob Ritz</u> de Joffe von Balgach seit dem Frühjahr 1862 – mit 25 Jahren und fünf Monaten	"	"	im 25. J. in Berneck
<u>Schmidheini Jacob</u> v. Balgach/63	"	"	mit 25 J. in Berneck – bis November
<u>Späder Robert</u> /63	"	"	mit 25 J. in Berneck
<u>Weder Joh. v. Stettler</u> /63	"	"	mit 25 J. in Berneck
<u>Schreiber Uli</u> v. " /63	"	"	mit 25 J. in Berneck
<u>Weder, Willi</u> v. Balgach/63	"	"	mit 25 J. in Berneck

An entry for 1863 in the Berneck school register:  
«Schmidheini Jacob, f.  
Balgach, 25 years old –  
silk weaver»

Great was the astonishment of Mr Kuster, the schoolmaster in the Rhine Valley village of Berneck, when he was approached in 1862 by a 24-year-old man with the request to be allowed to join the ranks of boys and girls only half his age on the school benches. The young man was a silk weaver by the name of «Schmidheini Jacob», as Kuster recorded in his register in his copperplate gothic script. The teacher spelled the name with an «ii» at the end, as it was customary at the time, and Schmidheini himself continued to use this spelling in letters or on letterhead paper for many years to come. The «ii» was not to become a «yy» until much later. Though Kuster did not indicate the precise age at which Schmidheini joined his school, he nevertheless appeared to be an excellent schoolmaster, and his pupil, though no longer so young, appeared to be equally talented. After 31 weeks, Jakob Schmidheini had already completed the syllabus for the second class and felt himself to be well on the way to becoming what he had

always dreamed of being from his childhood onwards: a manufacturer. «I want to be a manufacturer» had been his ambition from a very early age.

His parents were certainly not in a position to help him realize his dream. His father Hansjakob, who was married to Kathrine Nüesch, was the village tailor of Balgach, and his income was less than modest. His eldest son Jacob was born on 25 June 1838, and was later to write that «from childhood on I have always had to work hard. This helped me harden body and mind, but there was not always much to eat».

Young Jacob had to «work hard» despite the many afflictions he suffered from. Always a delicate child, he fell ill with smallpox at the age of five, developing a purulent wound on his left foot which left him with an Achilles tendon so damaged that he was only able to walk or stand on the ball of his foot. Although the local Balgach physician, Dr Sonderegger, recommended surgery, the anxious parents were adamant in their refusal.

Records show that the Schmidheiny or Schmidheini family had been living in the St. Gallen Rhine Valley for centuries. A certain «Jakob Schmidheiny in Wyden» had, like many other members of the family, held public office. This copy, dated 1806, of a tax declaration issued by the steward of the Abbey of St. Gallen in 1706, originated from him.

Ich weiss zum zum Landvorden, die Amtsgestalte ist selmesen, u. die  
Amt Concession im Meliora Glueckliet mit den Eulen Religions & Freiheit  
binnen eingefuehrt sind. Das ist in Lengenfingen das ist der Eile nicht  
vergessen können, in Mayen fies mit einem Concedens von Eder Zeit an  
und hingestellt ist der Abt Jakobus Pfeiffer u. G. Walther Hofmeister d. am 20.  
Mig. u. Oben offensichtlich Graugutvorden de 1706 einem je-  
Wille von Glueckliet von Jost zu Graustem Zettag in Sorens Form  
und so hofft es es gern und mag jodas M. u. Oben Zettag  
u. R. A. D. Disposition verhältnis. Also man zu meines  
Verhältnis u. Zettag, Jost von Glueckliet fies von Jost zu Graustem im  
namen Capitius Glueckliet von Graustem, auf den Convent mit meinem  
Angabebothen Jodas. Nachdem Zettag Land.

*J. Schmidheiny*  
Amtsvorsteher in St. Gallen

*Reut*  
in Kloster St. Gallen  
O. 17. April 1706.

*LS*

*Xunderi.*

*Capitius und Jodas mit  
Jacob Schmidheiny in  
Wyden.*

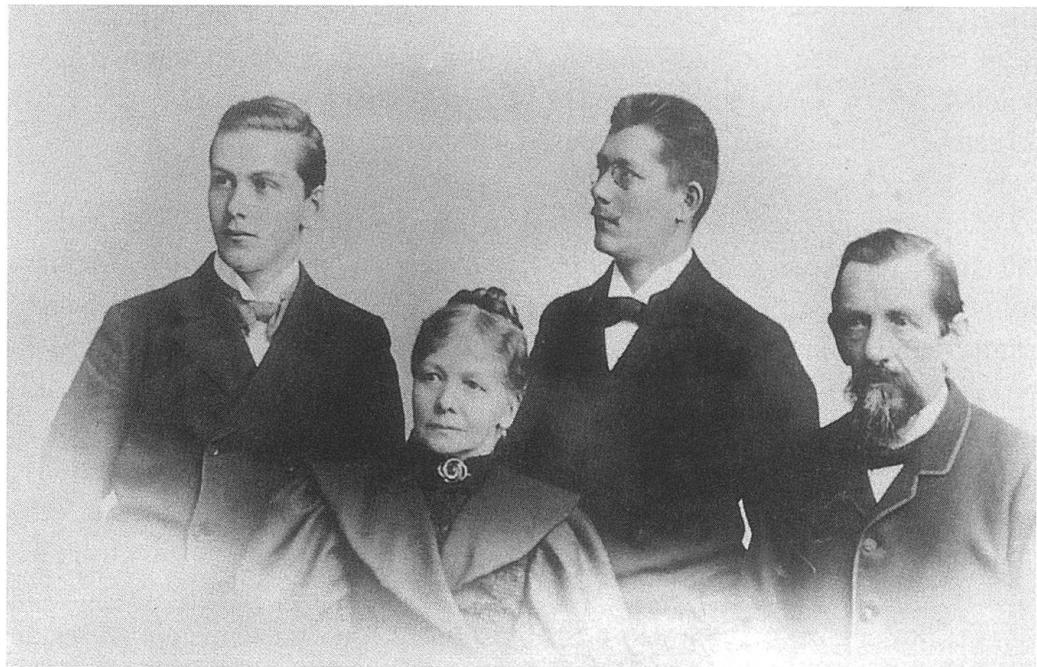
*Datum 23. 4. 1806.*

Young Jacob was to remain handicapped in this way for some time to come. It was with this handicap that he began, at the age of fourteen, the apprenticeship in the village of Horst near Teufen that he was to complete nine months later as a «perfect weaver». He then went to work in the neighbouring village of Trogen for a daily wage of only one franc, which, however, did not prevent him from handing over savings of two hundred francs to his family one and a half years later.

By this time, his parents had moved to Widen near Balgach. They asked Jacob to return home and instruct his

siblings in the art of hand weaving. After completing her apprenticeship, his eldest sister found a good position in the *Seidenweberei Sornthal* (the present-day *Zetag AG, Textilwerk Sornthal*), twenty minutes from Hauptwil. She encouraged her brother to follow her, and in 1860 Jacob himself started working at the factory. He enjoyed the work, and the owners promised to promote him if he showed «industry and good behaviour». He had, however, to wait 36 months for this step up, and Jacob was intelligent enough to see why: other young men with a better education were obviously being given preference over him.

*The Schmidheiny family in 1896: above, the two sons Jacob and Ernst; between them, their mother Elise, and to the right, Jacob I*



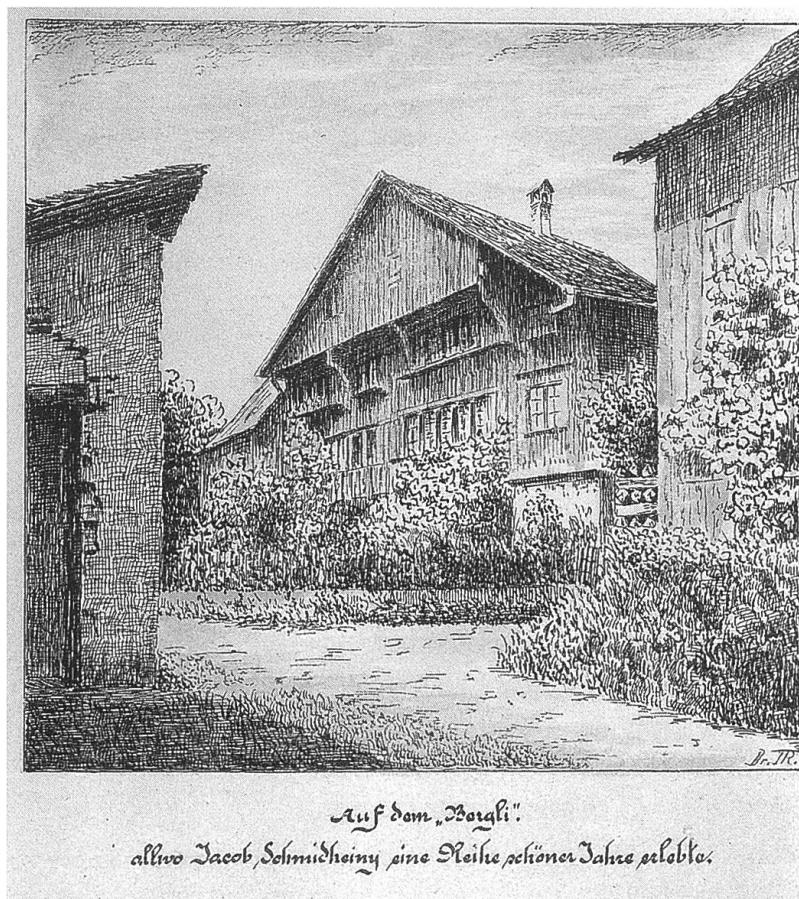
*The house Auf dem Bergli at Balgach, «where Jacob Schmidheiny spent many a happy year». Drawing by Dr Josef Rohner*

### **Manager at Sorntal**

Jacob therefore decided to abandon his Sorntal position and return to school at Berneck. It was the right decision. In January 1864, the new owner of the Sorntal factory offered him the post of manager at the modern-

ized mechanical silk weaving factory. To begin with, he had to work in the office because the new plant was not yet fully operational. But he was given a free hand to realize his ideas. It was no easy task for him to supervise and instruct over a hundred – mostly foreign – women weavers, fourteen silk reelers, several bobbin winders, warpers and unskilled workers. He had to keep a close watch on the equipment, and proved particularly skilful at repairing breakdowns. The many improvements that were introduced testify to his extraordinary technical ingenuity and the talents that were of great advantage in his later life. He also attended countless public lectures held in the neighbouring town of Bischofszell in order to fill the gaps in his education. His delayed schooling acted as a spur to his desire to learn.

But the management of the very extensive plant at Sorntal made great physical demands on Jacob Schmidheiny. He had to be on his feet far longer than was good for his weakened left leg, and he had to make the 20-minute walk from Hauptwil to his place of work at least four times a day. When the pain became unbearable, he



*„Auf dem „Bergli“.  
allwo Jacob Schmidheiny seine Kleine schöner Jahre verlebte.“*

finally agreed to the surgery that had been recommended to him and his parents fifteen years earlier. On 31 December 1864, he left the factory in Sorntal for good, and was admitted to the *Marolanische Krankenhaus* in Altstätten for surgery. The operation was followed by a 15-week course of painful follow-up treatment. Now, however, Jacob Schmidheiny was able to stand on the entire sole of his foot; a slight shortening of the left leg was offset by a specially constructed shoe, and he made regular use of a walking stick.

The owners of the Sorntal plant repeatedly requested him to return to the factory, offering him a much higher salary. He hesitated for a long time, weighing up the pros and cons while wandering through the Grünenstein woods. After a long struggle with himself, and despite the entreaties of his parents and friends, he decided to realize his childhood dream of remaining independent and becoming a «manufacturer». He acquired an empty pottery at Weiersegg, on the country road leading from Balgach to Rebstein, and set up several weaving looms. His Berneck schooling and the long hospital stay in Altstätten had depleted his savings, however. After paying for the new equipment, his capital amounted to all of eighty francs. But his semi-woollen and silk fabrics sold well until the outbreak of war between Prussia and Austria in 1866. Southern Bavaria, Jacob Schmidheiny's best market, suffered greatly as a result from the hostilities, and the young manufacturer had to search for new customers. Though not unsuccessful in this respect, he eventually had to acknowledge that there were limits to what a small-scale operation such as his could achieve and that he would never succeed in keeping his head above water. He

knew exactly what his ailing enterprise needed: more operating capital, more production capacity – and better customer service.

### Lord of the castle at Heerbrugg

There was no direct route to achieving these goals, and much foresight and entrepreneurial boldness were required. Chance, however, also played a major role, as it was to do in Jacob Schmidheiny's later career. He learned in the 1860s that the nearby Schloss Heerbrugg was up for sale. The name of this village was derived from *Herr* or «gentleman» rather than from *Heer* or «army». In fact, it was associated with a specific gentleman, the abbot of St. Gallen, Ulrich III. Heavily involved in the investiture dispute between the Holy Roman Emperor and the Pope, Ulrich erected – in 1077, the year of the Emperor's legendary journey of penitence to Canossa – a simple castle high above the Rhine Valley on the military road leading from the lower Rheingau to Graubünden, on the site of a former Roman fortress. This castle, the *Hērburk*, with its massive four to five-storied tower, was built to protect the abbey of St. Gallen's estates against its surrounding enemies, particularly the Count of Bregenz. However, the castle soon declined to the status of farmhouse. Renovated in the 17th century, it was destroyed by fire in 1774. Though subsequently rebuilt as a real castle, it did not receive its tower until 1911. As a matter of fact, the estate had once been owned by a Schmidheiny, the court and district clerk of Balgach, who sold it to an army officer from Altstätten called Kuster for 16,000 florins in 1792. Kuster was also at a loss as to what to do with the castle and was relieved when he was able to sell it to Professor Karl Völker from Eisenach in Thüringen in 1833.

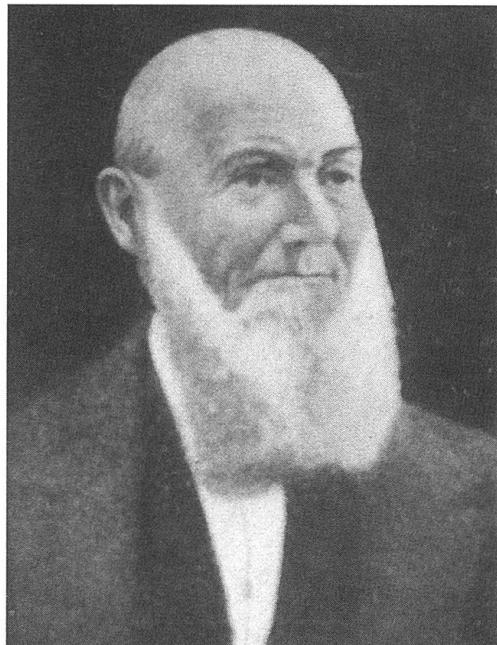
*Schloss Heerbrugg, which was bought by the German immigrant Karl Völker in 1833 and sold to the manufacturer Jacob Schmidheiny in 1867*



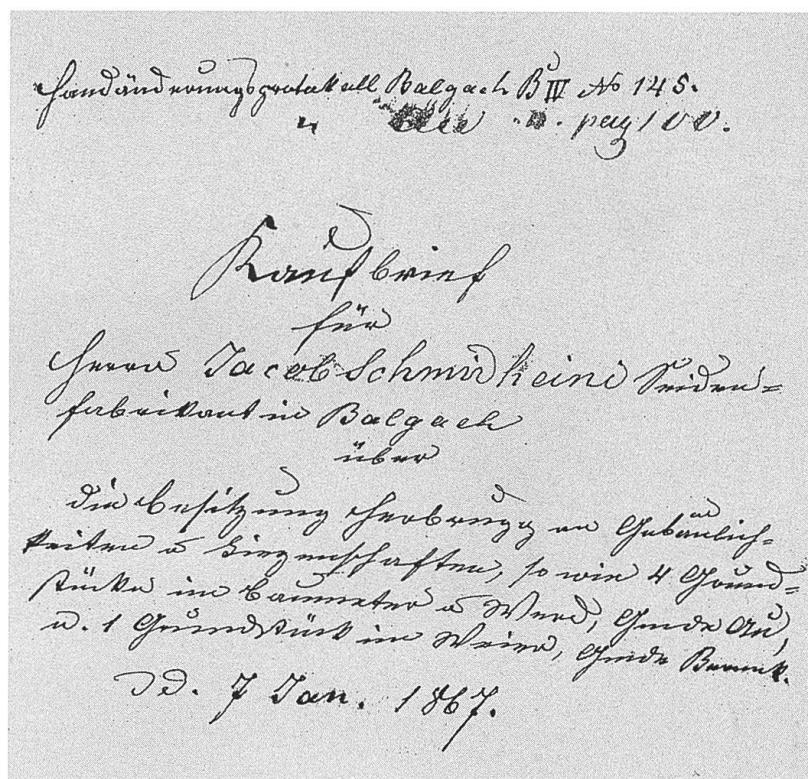
The Hunt Room in  
Schloss Heerbrugg



Völker had fled to Switzerland in 1819 as a political refugee. He married a native of Chur and became a citizen of Altstätten. Having previously been the headmaster of a boys' school in England, he ran a similar institution, also for English schoolboys, in the newly acquired Schloss Heerbrugg



Professor Karl Völker, 1796–1884, who emigrated to Switzerland as a political refugee in 1819. Became a citizen of Altstätten and was elected to the St. Gallen Cantonal Parliament. Founded a boys' school at Schloss Heerbrugg.



The «Bill of purchase for Mr Jacob Schmidheiny, silk manufacturer in Balgach, for the buildings and lands attached to the property of Heerbrugg», dated 7 January 1867

from 1839 on. The school was only a modest success, however, and had to be closed in 1850. Völker then engaged in all sorts of agricultural experiments. He started breeding Merino sheep, but when this came to nothing he turned his attention to silkworms, which were also a failure. He did better with the sale of brick-based products made in the outhouses where he had once kept sheep. His piping was particularly in demand, being used to drain the extensive marshlands of the Rhine Valley. Sales were so brisk that Völker built the brickworks at the foot of the castle hill in 1856.

In 1866 he decided to sell his substantial possessions, which now consisted of a spacious house, outhouses, an overgrown garden, moderately well tended vineyards and a number of valuable properties. Much to Völker's astonishment, one of the potential buyers was the son of Balgach's local tailor, whom he knew. Schmidheiny addressed the white-bearded *Herr Professor*, now in his seventies, as his «most obedient servant», the usual form of address in those days when differences of age and class were still openly acknowledged. There was, in fact, little likelihood of Jacob Schmidheiny's being able to put together Völker's buying price within the 14-day period he had been given to make up his mind. The *Herr Professor* was asking 135,000 francs, with Fr. 10,000 francs as a down-payment and the rest to be paid off in nine yearly instalments.

Chance again intervened. The Schaffhausen merchant, «Egidius P.», happened to be visiting the weaving shop in Weiersegg where he hoped to place his son Guido. Egidius P. and Jacob Schmidheiny had known each other from Sorntal, but the young Rhine Valley manufacturer had too few resources and too little space and

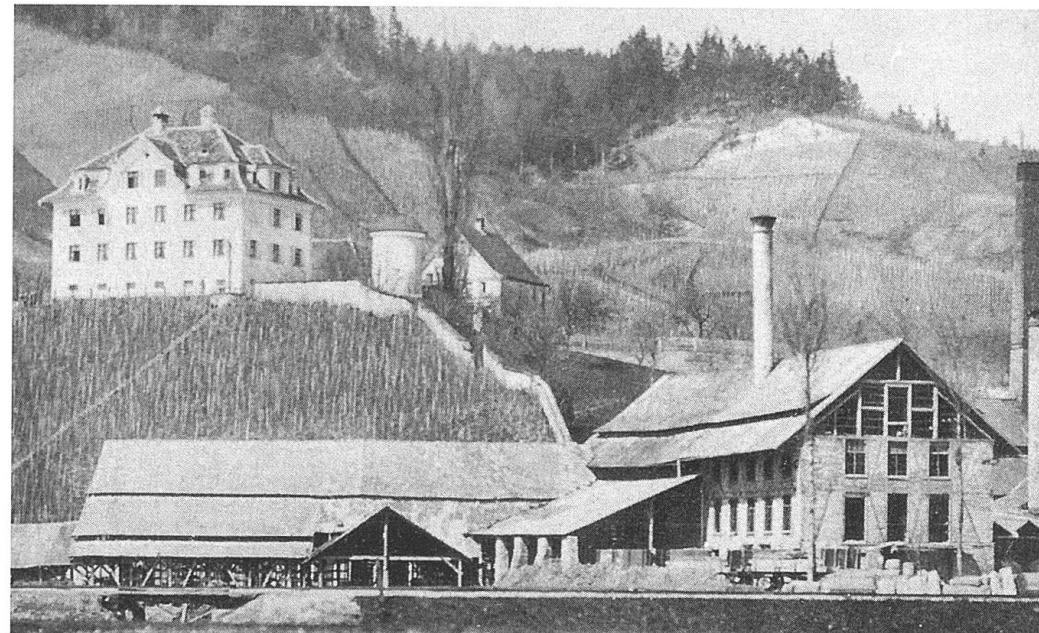
was also not in the proper frame of mind to take on the son of the well-to-do Schaffhausen merchant. However, the latter stated that he would advance the down-payment of 10,000 francs on very favourable terms. On 7 January 1867, Jacob Schmidheiny was handed the deeds of Schloss Heerbrugg.

### Silkworms and bricks

The purchase of Schloss Heerbrugg was – both privately and for business – the turning point in Jacob Schmidheiny's life. Nine months later, on 19 September 1867, he married Elise Kaufmann from Toggenburg, who was five and a half years younger than him. She was to bear him two sons, Ernst (1871) and Jacob (1875). He also changed his line of business. Abandoning the weaving shop, he took over (for a short time only) all the mulberry trees scattered over the entire estate and the silkworm breeding business from Professor Völker, who still lived on the first floor of the castle. Some time later, around 1870, Jacob Schmidheiny turned his attention to



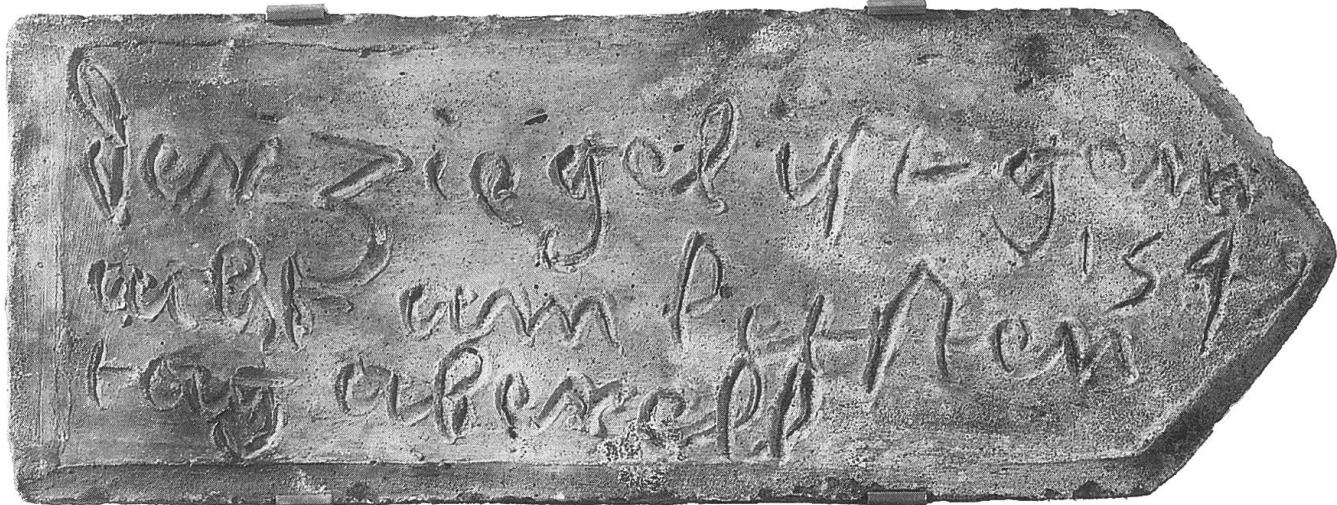
Elise Schmidheiny, née Kaufmann,  
1843–1927



Schloss Heerbrugg and, in the foreground, the brickworks built by Völker and expanded by Jacob Schmidheiny, the family's «parent» company. Photo c. 1880.



«The brickmaker – God's service makes free / From Satan's slaverey.» Copperplate engraving by Christoph Weigel, 1698.



«This brick was made on the last day of April 1549.»

Three medallions began to grace the letterhead paper of the Mechanische Ziegeleien J. Schmidheini shortly after 1886.

the small brickworks. What he found, however, was more than «modest»: a small workshop employing several brickmakers who, by manual methods, produced one pipe after the other or, working at the same comfortable pace, tiles and bricks. Once a certain number of pipes had been formed, an old-fashioned kiln was filled with wood and the firing process was laboriously started.

The young manufacturer was not too proud to labour alongside his men, sharing the simple midday meal with them and working in the plant from morning till night. For his entrepreneurial spirit, however, the business was too paternalistic and amateurish and therefore also too unprofitable. Jacob Schmidheini systematically set about uncovering the secrets of his new line of business, above all studying the difficult question of raw materials procurement. Although the Rhine Valley boasted all types of clay, he had to find out what type produced the best product. Using a small workshop at his factory, Schmidheini started testing different raw materials, new tools and apparatus as to his heart's content.

Schmidheini soon had to acknowledge that the business taken over from Völker would have to be modernized and extended. In spring 1871, new buildings with a modern high-rise chimney stack were constructed, and the wood-burning square kiln gave way to a more practical and less energy-consuming round kiln. Not all of those innovations paid off, however, and losses were made. All in all, however, the plant soon became profitable and further expansion was needed.



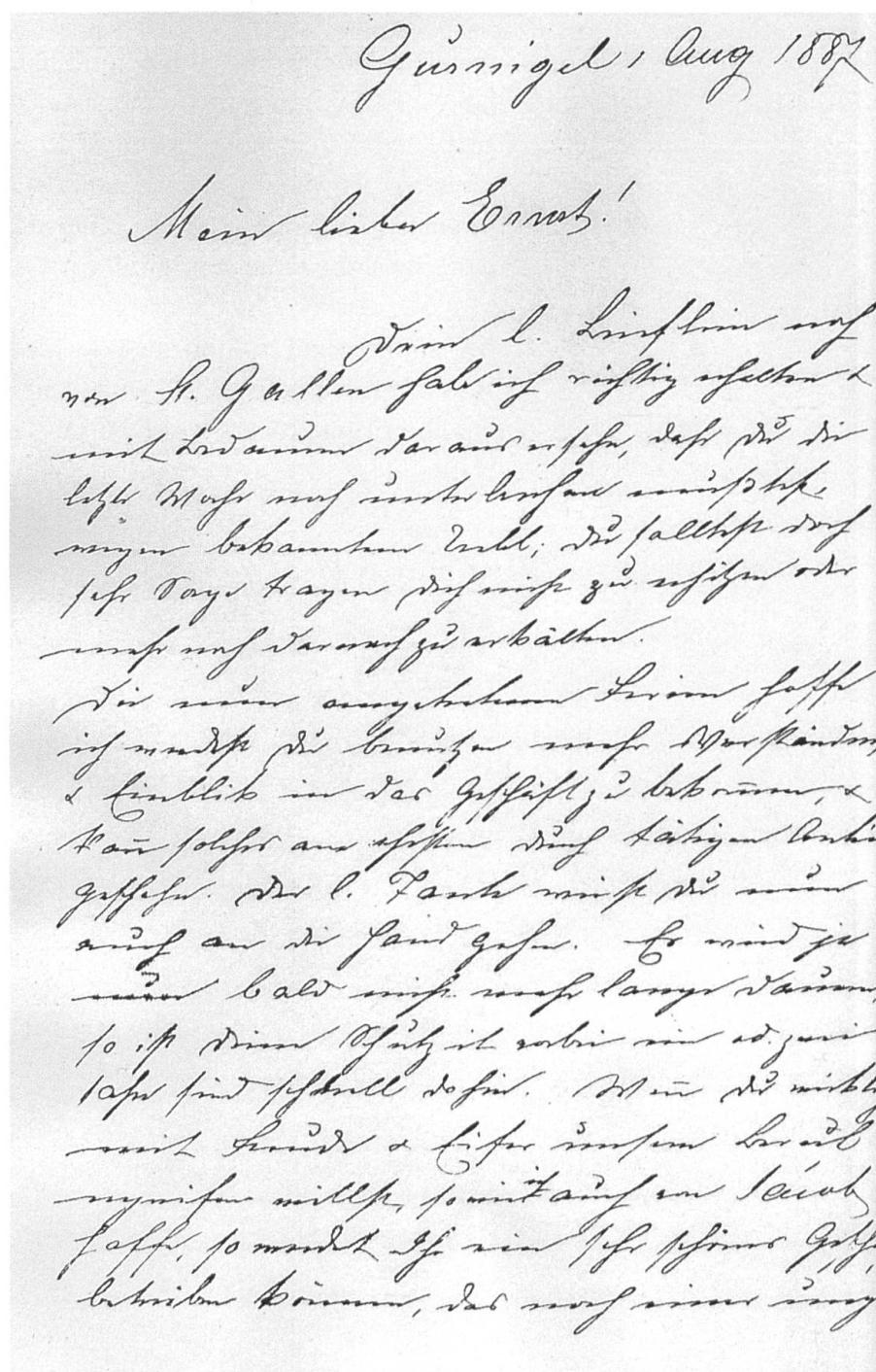
## Expansion to St. Gallen

Throughout his life, Schmidheiny was to show an instinct for discovering new industrial trends. In the early 1870s, he saw that St. Gallen's embroidery industry was booming. What the new offices and factories needed would boost demand for construction materials. Once again, chance came to his aid – though he would still have to deploy all his resources of boldness and imagination. In 1874, the Moser brickwork in Espenmoos, near St. Gallen, was burnt to the ground. Jacob Schmidheiny bought the site, reckoning that a brickwork so close to the city was bound to be a success in the current economic boom.

Even though the young manufacturer invested all his know-how and powers of invention in the new enterprise, *J. Schmidheiny (or J. Schmidheini) Mech. Ziegeleien* had a difficult start. Its owner had little money at his disposal, yet had to replace the slow manual methods of producing bricks by mechanized procedures as soon as he could. Having to count every penny, he could initially afford to buy only cheap equipment, thereby confirming a mocking claim by the old-established Winterthur industrialist, Sulzer, that «our manufacturers start by buying a steam engine that is old, then one that is too weak, and only at the third attempt one that meets all their needs».

Obtaining the necessary water power at the St. Gallen plant was also a constant problem. «For months», Schmidheiny was later to note, «my presence was required there. I travelled to work every morning with the first train, I was on my feet the whole day, and I returned home in the evening on the last train. Not wonder, my head never stopped spinning» – a reference to the headaches that plagued him for many years.

As if this were not enough, new obstacles were hindering the exploitation of raw material reserves. Schmidheiny had already had similar problems at Heerbrugg. Although the Rhine plain offered almost inexhaustible supplies of good clay, one day a large number of local farmers blocked deliveries to Heerbrugg with the foolish pretext that mined holes and the pools of water they caused were responsible for the bad grape harvests. Schmidheiny therefore quietly began to look around for new sources of raw



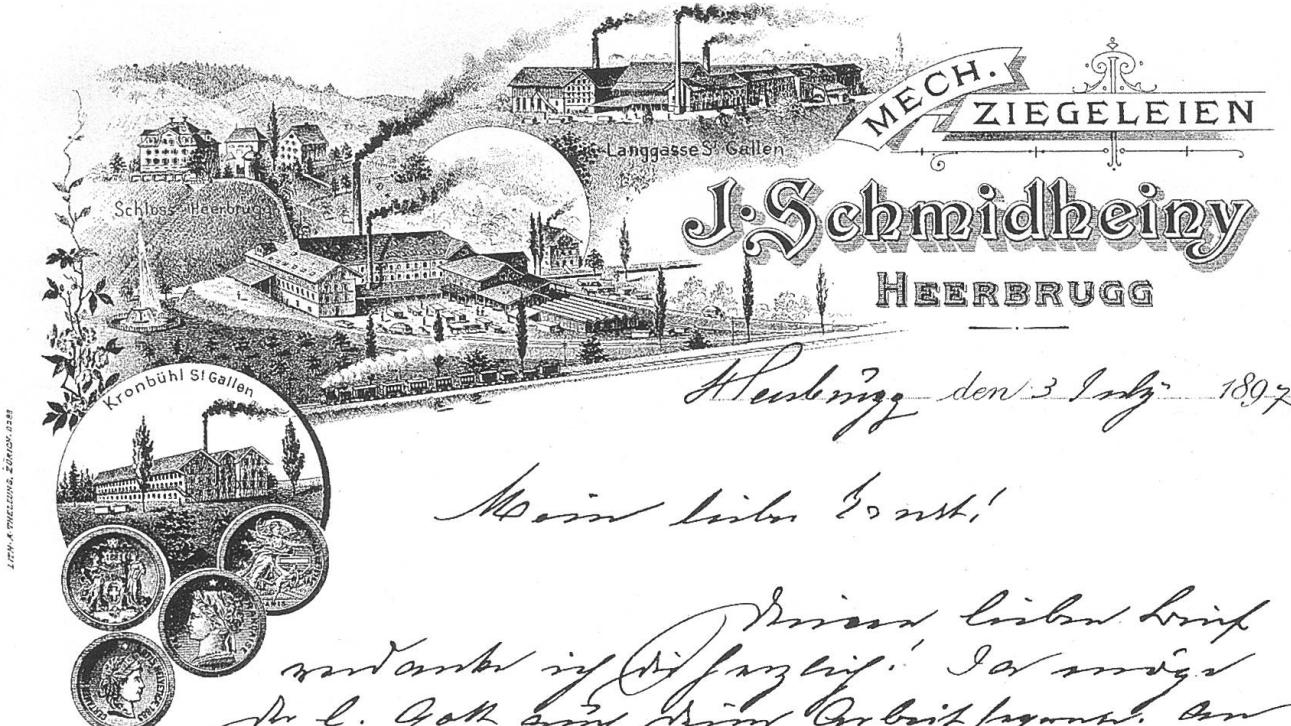
material. He purchased a large amount of clay in Marbach, though the material obtained in that region had a high content of chalky components. As such, it was unsuitable for producing bricks, and had first to be washed out. Only then did it become first-class raw material.

The procurement of raw material also proved to be a problem in Espenmoos. Though the blue clay obtained there looked very attractive, it did not have the necessary hardness or the right tone to it. As a result, it had to be

mixed with a different type obtained from the not too distant southern clay slopes of «Peter und Paul» hill. Overcoming the problem of distance was neither simple nor cheap. Schmidheiny's solution was to build a small funicular railway. He agreed to pay a transit fee for a period of ten years to local landowners for the right to run his train across their land. But in the 1880s, the farmers, believing they had Schmidheiny at their mercy, ganged up and demanded a tenfold increase in the fee. They had not reckoned with

Gebrüder Schmid und ihr Sohn Paul.  
Vorlieb möcht du auf mich auf in die Töpferei.  
Ich kann, aber es gäbts doch die ein paar Pfund Arbeit & Zeit.  
Wirst du mich gern zum Dach aus, mir einen Pfund  
in das Dach der kleinen Feuerwerksfabrik will. Es wird  
Kamin. Aber so gäbts bestimmt falls leichter, das es mich  
auf dem Dach nicht kann. —  
Gott sei Dank fühl ich eine mächtige Wirkung  
auf den neuen jungen Menschen mit mir innen  
auf in Gott vertraut. Der Gott der Tyrannen aber auf  
für alle gebetet.  
Ich fühl auf dir sehr viele Jahre zum Erfolg zu arbeiten,  
vorher sind zwei Töchter geboren, die müssen  
für mich, sondern auch auf mich selbst müssen brauchen  
zu arbeiten, was fühl auf diese Leute nur  
König ist.  
Mein Papier gäbts dir bald, das es leicht  
durchzulesen, ich brauch auf dich nicht auf.  
Liebe Brüder! Wenn ich mich dirne Jakob gefallen  
dagegen zu führen: wir kommen nicht wieder  
auf meine Glücksfinden aber ist. Dein  
Sohn ist mir sehr gesagt und gewünscht  
Meine & nicht mich mir für Wohl gefunden  
in dir. —  
Gott segne uns allen für Erfolg  
Dein Sohn Jakob und seine Brüder  
Dein Vater  
Jacob Schmidheiny

In a letter to 16-year-old Ernst in August 1887, Jacob Schmidheiny expressed his wish that his two sons would one day follow in his footsteps and become manufacturers: «If you take up our line of business with true enthusiasm and dedication, as I also hope Jacob will, you will do very well indeed, for the untapped potential is vast.»



Mein lieber Sohn!  
 Dein lieber Brief  
 wird sicherlich in England sein. Ich sage  
 dir, Gott sei Dank für die Arbeit gemacht. Dein  
 Gott sei Dank ist sehr gesegnet. Hoffe Mutter geht.

It was customary at the end of the 19th century for industrialists to have drawings of their factories on their letterhead paper, along with any awards received. «God's blessing is all», as Jacob Schmidheiny wrote to his elder son Ernst on 3 July 1897.

Jahres-Bilanz 1895  
 n. Espenmoos.

		Toll	Haben.
2	Salz zu 1000 kg zu 1000.-	2116.20	23952.24
14	Brauerei zu 1000 liter zu 1000.-		7281.49
26	Staubsauger zu 1000		1662.35
32	Druckpumpe zu 1000		14128.49
58	Salz zu 1000 kg zu 1000.-	75720.55	6595.90
90	Linzschwaffen zu 1000	2046.	3582.60
100	Uhr an der Alpenstr.		2500.-
104	Heerbrugg zu 1000		5330.34
	Inventar 1895	3940.05	
	" 1894		6068.
		83825.80	71011.34
			12814.40
		83825.80	83825.80
	Mein-Gewinn		

A balance sheet of the Espenmoos brickworks dated 1895

the entrepreneurial determination of their opponent, however. Schmidheiny decided to build new brickworks at the bottom of «Peter und Paul» hill and thereby avoid crossing any land owned by someone else. It was here that the Bruggwald plant was built in 1903.

### **«As if the world were full of demons»**

But these were not Schmidheiny's only problems. The Espenmoos operation had got off to a good start. The quality and punctual delivery of the goods were guaranteed by the tireless inspections undertaken by the owner himself, and this attracted large numbers of customers. But in the early 1880s, Schmidheiny began to feel as if «the world were full of demons». Technical problems hindered production, and the water supply proved inadequate not only at Espenmoos but also at Heerbrugg; severe night frost froze the residual water in the bricks and burst the material laid out to dry. In autumn 1882, fire – fanned by the Föhn – destroyed the entire central building of the Heerbrugg plant. But Schmidheiny did not give up. He quickly put together the money necessary for rebuilding, and full production was resumed in spring 1883.

In the 1880s, however, the industry was affected by a serious economic crisis which made itself felt beyond the frontiers of Switzerland. Prices fell, and many competitors tried to sell their products at dumping prices. Schmidheiny, whom reconstruction of the Heerbrugg factory had left heavily in debt, was forced to increase productivity and lower production costs. He recognized in particular that such costs could be lowered by employing greater water power which would streamline his operations and increase their cost effectiveness. He looked for new sources of water and found them

particularly on the eastern slopes of upper Appenzell. In the «Klee» district, he acquired a number of springs whose waters he redirected in pipes to a reservoir built on the Balgacherholz and thence to the Heerbrugg brickworks located 380 meters further down.

In the company of other specialists, Schmidheiny travelled to Westphalia to study developments in the industry there. They encountered a form of production that, though entirely new to them, appeared to be considerably more profitable, involving compression of semi-moist clay and its direct exposure to the heat of the kiln. Schmidheiny was impressed by this streamlined process and had a wagonload of Bruggwald clay transported to Westphalia and processed there. The result was so encouraging that all production at Bruggwald was switched over to the new method.

But in boosting the productivity of his brickworks, Jacob Schmidheiny did not confine himself to introducing methods developed elsewhere. He himself was a passionate technical experimenter. After many attempts, he succeeded in 1880 in producing a special long-stringed gutter tile about which he enthusiastically wrote: «It simply flows out of the machine, ready to use. You only need to cut the length and it does not have to be compressed or improved in any way. You cannot say that about any other tile currently being manufactured. The machine can easily supply 600–800 tiles in an hour. Thanks to its construction, the tile provides the lightest roof with the longest life.»

Like many inventors, admittedly, Schmidheiny tended to overlook the material aspects of his creations in his enthusiasm. For instance, he simply forgot to obtain a patent for the machine that produced his long-stringed

gutter tile. A resourceful foreman made up for this omission and had the invention patented – at least in Switzerland – under his own name. For some reason, Schmidheiny was reluctant to go to the courts for what he considered a bagatelle. He obtained the sample protection rights in Germany and the Austro-Hungarian patent, and left it at that.

In 1891, Jacob Schmidheiny succeeded in producing two bricks in one working step. «We shall soon be able to produce twice as many bricks, and it will only cost us the price of an additional apprentice», he noted with triumph. This time, however, he applied to the patents office for protection of his invention.

### «The multiple-edge mill»

Schmidheiny's greatest problems arose in connection with the urgently needed modernization of his St. Gallen factory. He had acquired new – and apparently state of the art – machinery in England. But the bricks they produced all had large numbers of hairline cracks and were too heavy. Schmidheiny tried to rectify this by using other equipment such as centrifugal mills. Though the results were satisfactory, the mills were expensive and wore out too quickly, having to be discarded after the production of only ten to twelve million bricks.

Though discouraged for a while, Schmidheiny did not give up. Encouraged by his wife, he started experimenting again. After many failures, he eventually produced his greatest inventive achievement, which was to earn him widespread acclaim in the industry: the «multiple-edge mill». Constructed according to his own designs, this machine «combined the individual manufacturing steps», allowing uniform kneading of the clay and marl required for producing bricks. The

machine proved to be astonishingly efficient and economical, using four times less energy than the earlier rolling mill and yet was much more productive. In addition, it ran virtually without breakdowns, and there was no waste. After some details had been improved, the popularity of the invention spread throughout Europe from 1900 on. According to the trade newspaper of the Berlin clay industry, the multiple-edge mill represented «an important step forward for our brickworks with their quite different raw material». Having learned the hard way, Schmidheiny was now experienced enough to apply for a patent for his invention. Subsequently, the *Giessereien und Maschinenfabrik Adolf Bühler in Uzwil* bought «all purchasable patents», thereby securing «the sole rights to produce and sell the wet multiple-edge mill».

In the meantime, however, fate was planning some serious setbacks for Jacob Schmidheiny. At the start of 1891, a devastating fire broke out in the Heerbrugg brickworks, destroying most of the facilities. The conflagration probably originated in the recently renovated heating plant, and the heating engineer Fehr from Widnau lost his life.

The fire had a positive side to it, however. Planning the reconstruction of the plant revived the spirits of the depressed manufacturer for a while. But it also caused him new financial problems which he was to have great difficulty in overcoming in the next few years. In a letter of 1892 he wrote: «I have had to struggle with debts my life long. Wages have to be paid, bills for interest and taxes have to be settled whether I possess the money for them or not. I long to be free from these financial burdens. If the town buys the property I have offered it, I want to use the cash to make sure I avoid in future

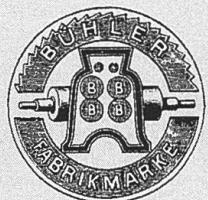
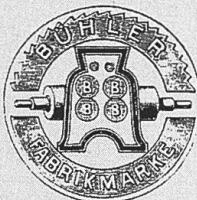
*The Giessereien und Maschinenfabrik Adolf Bühler in Uzwil acquired the patent for the «multiple-edge mill» invented by Jacob Schmidheiny. This mill ensured uniform kneading of both the clay and marl required for producing roofing tiles and bricks. The apparatus soon became a byword in trade circles.*

# ADOLF BÜHLER

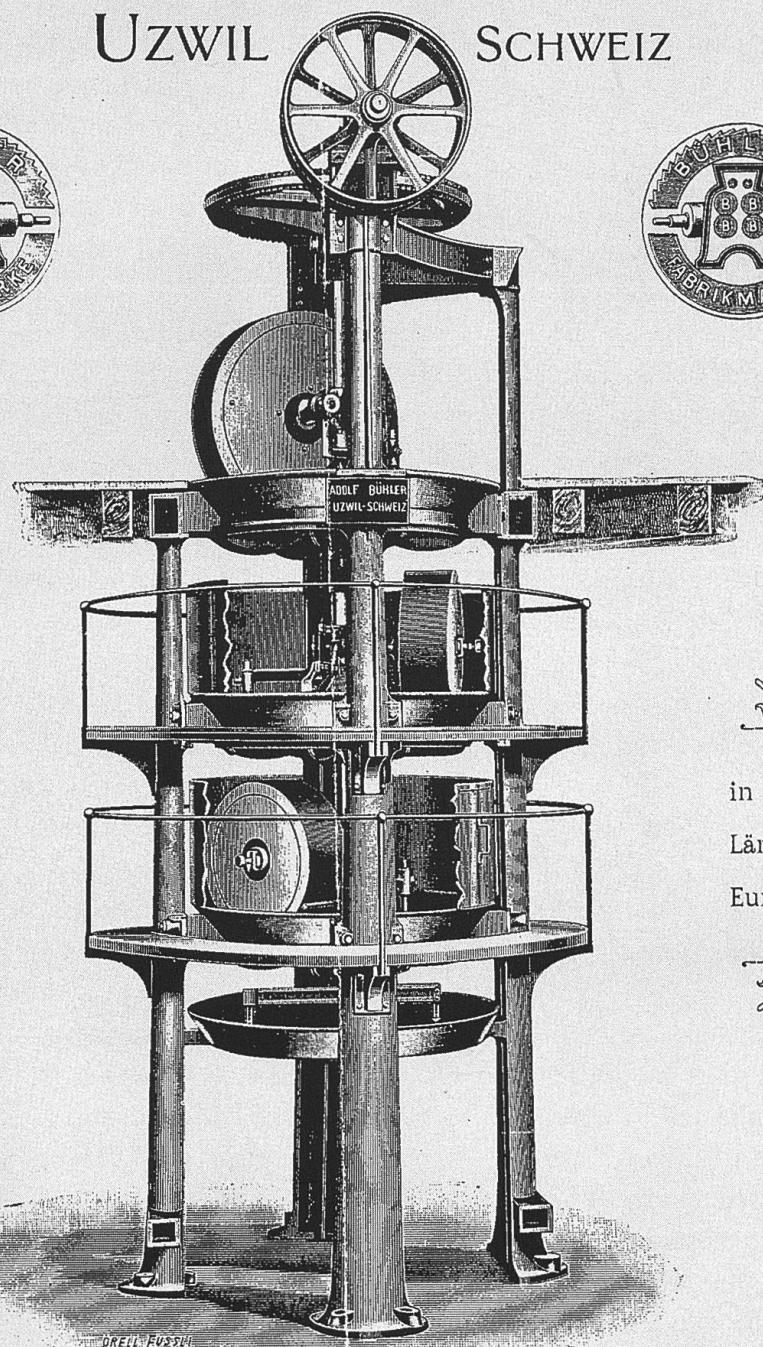
GIESSEREIEN UND MASCHINENFABRIK

UZWIL

SCHWEIZ



Eigene  
Patente



in allen  
Ländern  
Europas.



Spezial-Maschinen für Ziegeleien und Cementfabriken.

the dreadful financial worries that have almost cost me my life this last year.» Schmidheiny had great difficulty in meeting his commitment to pay off the capital as well as the regular interest, and there was no question of setting aside the provisions that were actually necessary. In his despair he wrote: «I have to jump from one branch to another and I never know whether the tree will not have been cut down from underneath overnight and cause me to tumble to my ruin.»

But Jacob Schmidheiny's financial backers always had full confidence in the simple man from Balgach – and he never let them down. His financial situation improved somewhat as the multiple-edge mill began to make a profit. Schmidheiny's protracted and worrying financial plight gradually took a turn for the better. On deciding to build a new factory in Krongüll near St. Gallen around the turn of the century, he reported proudly that his factories had produced about 25 million bricks in 1900, compared with some 250,000 in 1870 – a hundredfold increase.

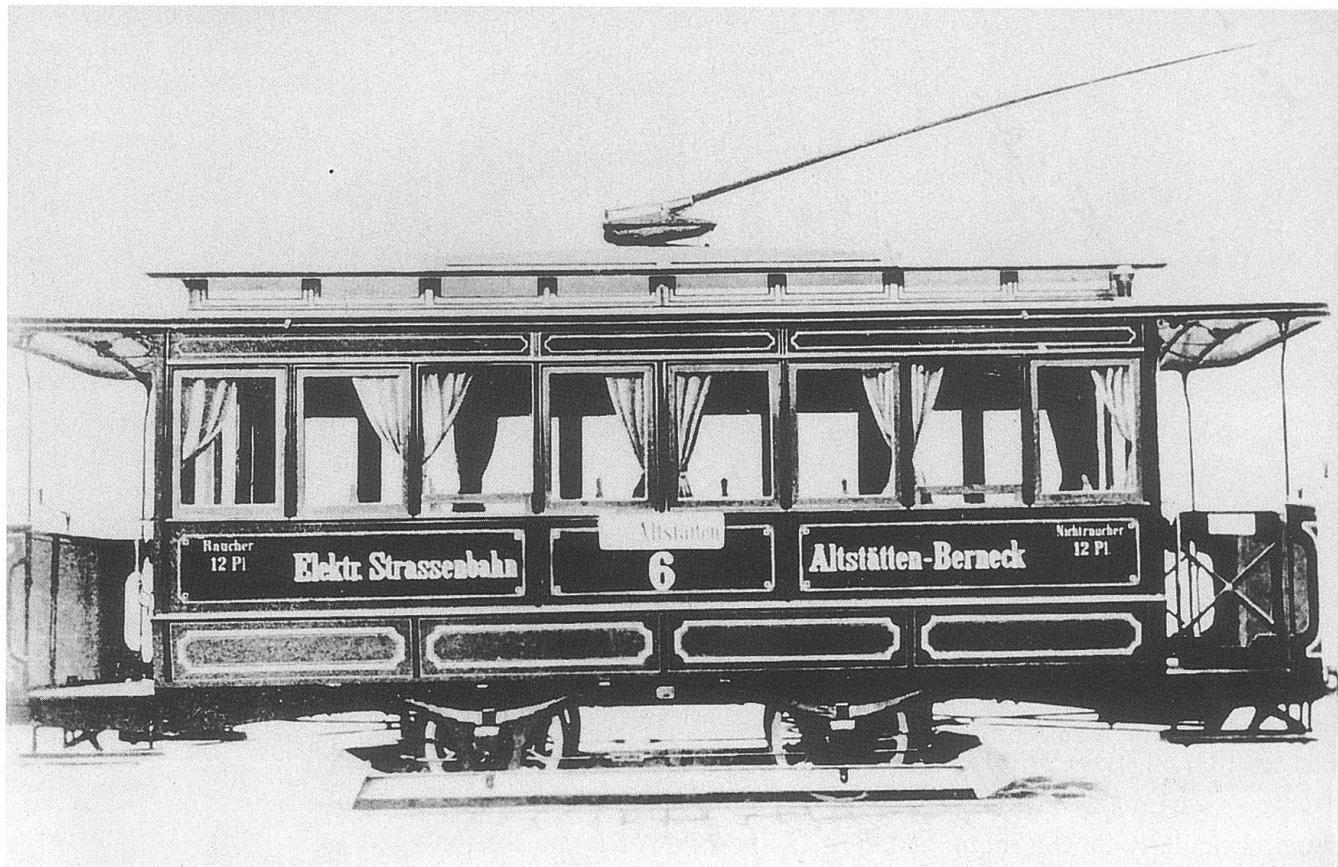
### **Opening of the Rhine Valley tramway**

Despite the many setbacks suffered by Jacob Schmidheiny in all those years, he remained dedicated to what is now called «holistic thinking» – an approach that was to characterize subsequent Schmidheiny generations. He was concerned about the well-being not only of his own brickworks but also of the wider surroundings, above all the Rhine Valley, where he constantly tried to create new employment opportunities and the most favourable possible operating environment. He was particularly concerned about the poor transport infrastructure. The existing tramline had been laid out along an uninhabited plain well away

from the villages. Together with the Berneck merchant C. A. Lutz, he started planning a Rhine Valley tramway in 1890. With a healthy portion of realism, they confined themselves initially to the Altstätten-Heerbrugg-Berneck segment. Having little time for the old-fashioned «horse-drawn tram» type of locomotion, Schmidheiny did everything in his power to persuade the organizing committee to accept an electrical operating system and, logically, the creation of the necessary water power and issue of shares.

The realization of this project was not always plain sailing, however. Shortly after the line opened in 1897, he admitted that «the building of the tramway has caused me more pain than pleasure, but I have never regretted the great efforts I put into realizing such a useful project». At the urging of his colleagues, he joined the board of the tramway company *Strassenbahn Altstätten-Berneck* – a board which, as he had to admit, was «a true reflection of the shareholders, i.e. a concentration of pure contradictions». In 1903, he became chairman of the unpopular board of directors and had to settle many internal disputes, always with a view to «developing the tramway into an efficient means of transport that can serve the public at little cost».

Jacob Schmidheiny was very attached to his tramline – he was to be fascinated by electricity and the electrical industry his life long (an interest his sons and grandsons were to inherit from him). A year before his death, in a lengthy letter written to his oldest son Ernst from Flims, he expressed ideas that reflected not only the industrial optimism of that period of expansion but also the kind of realistic and politically minded entrepreneur that he was: «Replenish the earth and subdue it. I can't forget this biblical in-



*In 1890, Jacob Schmidheiny devised a project for a Rhine Valley tram linking Altstätten, Berneck, Au, St. Margrethen, Rheineck, Thal and Rorschach, which was, however, rejected by the St. Gallen government. Nevertheless, the Elektr. Strassenbahn Altstätten-Berneck was inaugurated on 6 April 1897. Its initiator, Jacob Schmidheiny, became chairman of the board of directors in 1903, a post he held until his death in 1905. He was succeeded by his son Jacob Schmidheiny II.*

struction, even in the holidays. The hand on my life's clock is certainly well advanced, but I must put my thoughts down on paper: the observation of the streams flowing freely from the glaciers – this treasure chest of immeasurable water power – must make the water engineer's heart dance with joy when he thinks of the vast quantity of water power that has still to be created. But we must not forget one thing: the rural municipalities are still quite amenable to selling their water power cheaply. But one day the farmers will recognize the enormous value of their water. Then all the preaching in the world won't help.»

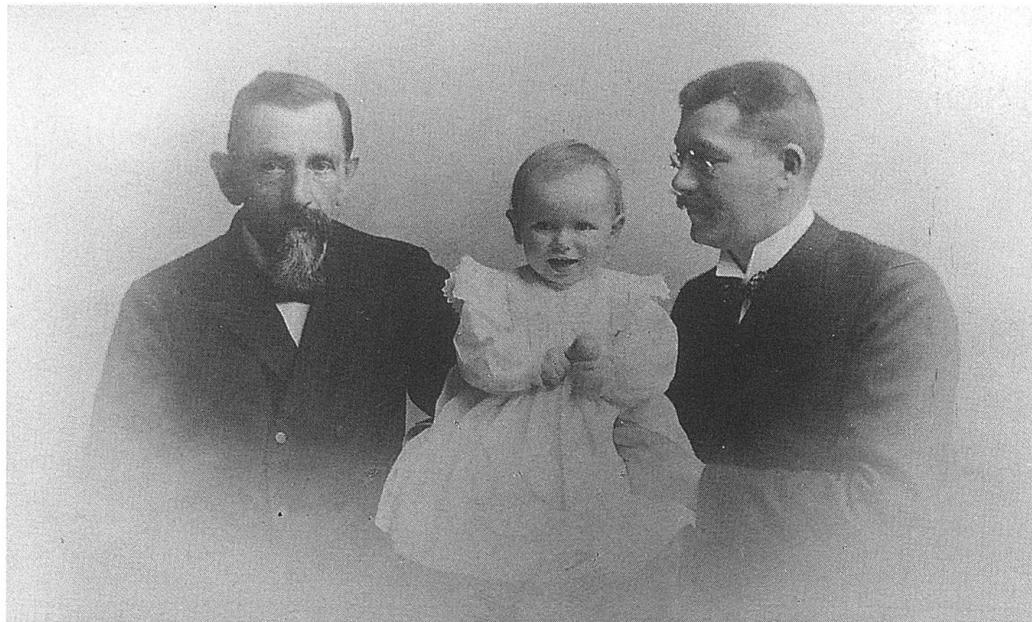
#### **«The honest attempt to do good...»**

His work on the tramway was not the only extra string to Jacob Schmidheiny's bow. He stood for public office on many occasions throughout his life. He was a member of the municipal, school and church councils of Balgach

and of the evangelical synod, and from 1891 to his death in 1905 was a member of St. Gallen's cantonal parliament. His reputation was not that of a frequent speaker, but of someone who knew how to listen, but could still – when he was feeling his oats – be quite obstinate. At a meeting of the school cooperative council of his native village, he strongly advocated raising the salaries of the teachers. But the proposal met with opposition, the majority of his fellow citizens preferring to leave things as they were. However, Schmidheiny spoke again: it was, he said, their duty to improve the salaries of the teachers by a modest increase; he would, if necessary, pay this out of his own pocket.

Jacob Schmidheiny was greatly respected in the industry, above all for his wide-ranging knowledge, his impeccable business conduct, his pronounced sense of right and wrong and the simplicity of his manners. From 1903 to his death, he was president of

*Three generations of Schmidheiny in December 1903: grandfather Jacob I, son Ernst I and grandson Ernst II*



the *Verband schweizerischer Ziegler* (Association of Swiss Brick Manufacturers) – no easy task. The board, and more particularly its chairman, had to deal with the problem of excessively large stocks, stagnating sales and strong pressure on prices. Production and consumption had to be coordinated throughout the cartel. Though Schmidheiny tried with all his power to bring about a thorough reform of operating conditions, he was not entirely successful. While to some extent resigned to this partial failure, he consoled himself with the thought that «Often, the honest attempt to do good is in itself enough to satisfy the needs of the times.»

Towards the end of his life, Jacob Schmidheiny was increasingly taken up with the «social question», an issue that became more and more topical in Switzerland as in other countries around the turn of the century with the formation of the trade unions and the passionate debate that arose on the position of the worker. In his own factories, Schmidheiny was always willing to engage in a dialogue, and his door was open for office employees and workers alike. In addition, he was in constant pursuit of a «great

social work», particularly in his last years. He was for ever devising plans for the creation of a central Rhine Valley hospital or home for the aged, or for financing an institution of higher education. But his sudden death due to heart failure at his Espenmoos factory in the early hours of 18 February 1905 put an end to these plans. He was buried in the cemetery of Balgach three days later. He had always said that he wanted to depart from this life in the midst of his work – «like a soldier at his cannon». He had his wish.

#### **«The honour of our house»**

When Jacob Schmidheiny died, his son Ernst was 34 and Jacob II was 30. The father had taken a keen interest in his boys' education. As he once wrote, «Schooldays just fly, there's no saying how, and what they teach us stays with us throughout our lives. Habits learned in our youth are retained thereafter, whether we like it or not.» He was always in close touch with his sons, writing them long letters when they were abroad. And he never forgot to express his deep-rooted piety: he warned Ernst in 1887 not to «forget to pay your respects to your God and

J. Schmidheiny & Söhne

Herbrugg, 28. febr. 05.

Blatt

## Bilanz

der Erbsmasse von J. Schmidheiny sel.

### Aktiva.

Güterabfuhr am frisse Jacob Lh. Herbrugg.	fr 350 000.-
Grüngärtner Kraubühle I & II	fr 300 000.-
" " II "	fr 300 000.-
Lager an fertigem Haar 1,5 Mtr. (fr 60000 Marktpreis)	fr 30 000.-
Amaraußiger Gnt, Espegnrnt, Anzahl der Fahrzeuge & Rundschuhl. Gnt	fr 100 000.-
Haus & fabrik Brunnwald (verkauft für fr 63000)	fr 50000.-
Ganz im Espegnrnt im Kofbau fertig	fr 10000.-
Boden im Espegnrnt 30000 m <sup>2</sup> à 3	fr 90000.-
Wohngärtner Haar zur Marmorsäge zw.	fr 30000.-
Boden an der Grimmatstrasse (die Zölle ih verkauft) für fr 80000	fr 120000.-
Wappenkraft anlagen Oberstobel & Espegnrnt fertig Gnt, Ganz & gross & Wirtschaftsgut mit (Gutserwerb für fr 30000.-)	fr 250 000.-
Wappenkraften nach Abzugserlass	fr 129 500.-
Baukunst Coeli coni	fr 17 594. 25
Gebau und Aufzüge fällig	ca. 150 000.-
ab Passiven	
Summen	fr 1'927.094. 25
	427 094. 25
	fr 1'500'000.-

An «Enumeration of the  
estate of J. Schmidheiny  
by himself» dated  
28 February 1905

Saviour every day», and on 3 July 1887, he wrote, also to his elder son, «May God bless your work. God's blessing is all».

Jacob had hoped that his two sons would follow in his footsteps. He therefore did not conceal his disappointment when Ernst, after passing his high school leaving examination, decided to study law and Jacob junior started making arrangements to leave the brickmaking business. He made a passionate plea to them in the following letter: «My untiring endeavours to put our family on a solid footing (also financially) has been driven more than anything else by my thoughts of you, my beloved sons. It pains me deeply to realize that, having believed the time had come when I would no longer have to struggle with the daily burdens of business on my own, I may again have to fall back on

my own resources for years to come, until my strength is perhaps entirely depleted. I have not worked in order to achieve a degree of prosperity, but to establish for our family a solid foundation. Only hard work can keep Heerbrugg – which I fought to acquire and treasure like a beloved bride – in our family. I spare no effort for the honour of our house.»

This plea did not go unheard. In 1902, both brothers became partners in the father's brickmaking business. And after 18 February 1905, Ernst and Jacob II informed their far-flung customers that, following their father's wish, «the company of *Jacob Schmidheiny und Söhne* will be known henceforth as *Jacob Schmidheinys Söhne* and will be conducted as before, in our father's spirit and intention. We can think of no better way of honouring the company's founder».

## Chronology

**1838** 25 June: birth of Jacob Schmidheiny, son of Hansjakob Schmidheiny and Kathrine Schmidheiny, née Nüesch, in Balgach

**1839** Professor Karl Völker from Eisenach takes possession of Schloss Heerbrugg (which he had bought in 1833)

**1865** Jacob Schmidheiny sets up his own weaving shop at Weiersegg

**1867** 2 January: Jacob Schmidheiny buys Schloss Heerbrugg

**1870** Production switched over to the manufacture of bricks

**1871** 1 April: birth of elder son, Ernst I

**1874** Construction of brickworks at Espenmoos, near St. Gallen

**1875** 21 June: birth of younger son, Jacob II

**1876** Mechanization of brick production

**1882 and 1891**  
Heerbrugg brickworks destroyed by fire

**1888** Construction of brickworks at Kronbühl, near St. Gallen

**1890** Jacob Schmidheiny, together with C.A. Lutz of Berneck, initiates the *Strassenbahn Altstätten-Berneck*

**1891** Elected to St. Gallen Cantonal Parliament

**1897** Inauguration of the tramway company *Strassenbahn Altstätten-Berneck* (Jacob Schmidheiny I appointed chairman of the board of directors in 1903)

**1900** Purchase of the Horn brickworks – Jacob Schmidheiny's invention, the multiple-edge mill, takes Europe by storm

**1902** Jacob Schmidheiny junior returns to Heerbrugg from abroad and, along with his brother Ernst, becomes a partner in the new firm *Jacob Schmidheiny und Söhne*

**1903** Construction of Bruggwald brickworks

**1905** 18 February: death of Jacob Schmidheiny I – the firm *Jacob Schmidheiny und Söhne* is renamed *Jacob Schmidheinys Söhne*



A handwritten signature in black ink, appearing to read "Jacob Schmidheiny". The signature is fluid and cursive, with a long, sweeping flourish at the end.