

The Beginnings of Machine Embroidery in Saxony

While researching for primary documents about the beginnings of machine embroidery in Saxony (and hence in Germany) it has been possible to find out the correct date for the first embroidery machine and the spreading of this technology until the beginning of 1863.

The hand embroidery machine with double-sided pincer wagons and a special version of the needles (with points on both ends and the eye in the middle) mechanised the manufacturing of embroidery by needlework along with a parallelisation through multiple needle beams. It was invented in 1828 by Josué Heilmann from the Alsace area (Mulhouse). A detailed description of this machine together with a drawing was first published in 1835 by the inventor.¹ The translation into German came out one year later and is available as a digital copy on the Internet.²

Until today and without any reference, 1836 was known as the year of its introduction in Saxony according to a statement from Louis Bein.² Because of the availability of the well-preserved account books of the textile manufacturing company F.L. Boehler & Son it was easy to find out the real date. It was on 15th March 1830 when the freight charges for the carriage from Mulhouse via Nuremberg to Plauen were paid for.⁴ Prior to that, Ludwig Boehler personally travelled to Mulhouse in January accompanied by André Koechlin (brother-in-law of Josué Heilmann) to negotiate the contract. The payment of 1,646 thaler and 16 groschen is booked on 23rd February 1830.⁴

The pioneering spirit to buy such a new machine considering the technology was still in developmental stages and without any customer service available is worthy of admiration. It was also possible to reconstruct the cost breakdown of this machine from the account books. A separate publication concerning this aspect is a work in progress.

In the Vogtland county museum in Plauen, there is a portrait of Frederick Ludwig Boehler (born 1768 in Frankfurt, died 1849 in Plauen) which shows him in 1838 on his high desk with an account book. By that time the embroidery machine had already been sold on as the repetitive technical problems most likely did not allow for a stable production process. In July 1836, Carl Eisenreich who was a mechanic living in Plauen had bought the machine. He had already repaired it several times before.⁴ It is unknown what he wanted to use the machine for but one could suspect that he wanted to use it as a model for a copy of the original. Even so, before 1847 this machine was sold to the textile manufacturer Jakob in Trogen (Appenzellerland, Switzerland).⁵

Most likely, the first two embroidery machines were running in 1829 in Switzerland (St. Gallen) and were also produced by A. Koechlin & Cie. in Mulhouse.⁶

The King of Saxony, Frederik Augustus, visited the textile manufacturer Louis Schwabe at his Manchester site (a German born in 1798 in Dessau who emigrated to England) during his extended journey through England and Scotland in 1844. There, the visitors had been shown a hand embroidery machine designed by J. Heilmann. In contrast to Switzerland and later on to Saxony these machines were operated by women.⁷ Mr G. Carus, author of the journey diary and personal physician of the king, was very impressed by that demonstration. Nevertheless, it still took nearly 14 years until embroidery machines were running again in Saxony.

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While in Switzerland, France and England the embroidery machine was being further developed, there was no production of those machines in Germany until the end of 1860.

The Swiss in St. Gallen succeeded perhaps best of all in having a well matured mechanical construction available in the beginning of the 1850s after a long period of "trial and error". This put the embroidery manufacturers of West Saxony under pressure to look into purchasing such a machine themselves. The first one was the company Schnorr & Steinhaeuser in Plauen which took 12 embroidery machines from Switzerland into operation between January 1858 and February 1860.⁸ The first two machines were imported secretly by Albert Voigt in 1857 from St. Gallen after previous investigations in summer 1855 by teacher Frederick Kohl from Plauen (born 1811 in Muegeln, died 1876 in Strehlen) during an educational trip of several weeks through Switzerland regarding the textile industry and the vocational school system.⁹ Due to a life-threatening typhoid disease Albert Voigt was forced to delay the purchase in 1856.¹⁰

There are lots of rumours about this "machine kidnapping" which only started to spread after 1900.¹¹ The historic authentic reconstruction of this procurement is currently in progress based on documents in private property and with the support of archives in Switzerland.

In the Saxon county of Vogtland, a picture of the first two embroidery machines from Switzerland was on display in October 1907 for the 50th anniversary of the arrival of the machine.¹² It originated from the private property of senior teacher Mr A. Liebold but it is unknown whether this picture still exists.

The manufacturer and vendor of those 12 machines was the embroidery producer Burkhardt in St. Fiden near St. Gallen.¹⁰ At his company, Emil Saurer once was an apprentice in the 1860s before he began studying mechanical engineering at the College of Technology Mittweida (Saxony) in 1869 as the first Swiss student.¹³

At the same time, Swiss machine embroiderer Frederick Roth was convinced to move from Degersheim (county Toggenburg) to Plauen. He arrived on New Year's Day in 1858, his family followed him a few months later.¹⁴ His son Bertrand became a famous piano player as well as a composer (student of Franz Liszt). He also became the son-in-law of Albert Voigt.¹⁵ Since 1925, there is a street named after him in Plauen in honour of him.

After graduating in Chemnitz, Albert Voigt was a mechanic at Schnorr & Steinhaeuser in Plauen from Easter 1858 to February 1860 and lived in the building of the new machine embroidery at Hofwiesenstr. 7.¹⁰ As he didn't find a suitable workshop to rent in Plauen with water or steam power he moved to his brother-in-law residing in the Red Mill in Kaendler near Limbach.¹⁰ There, Voigt manufactured his own hand embroidery machines (later in Kappel near Chemnitz) from the end of 1860. His life's work has been last described and acknowledged in detail in 1995 during a colloquium in honour of the 100th anniversary of Voigt's death.¹⁶

The first embroidery machine was delivered by Voigt on 20th November 1860.¹⁷ It was a double-row machine with a rapport of 6/4" and an embroidery length of 6¼ cubits like the first Swiss machines.¹⁷ The name of the Saxon customer couldn't be identified yet. In the beginning of 1863, Prof. Julius A. Huelse, director of the Royal Polytechnical School of

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Dresden, visited the young company of A. Voigt during a study trip to get an insight into his customer list which Huelse incorporated into his report to the Ministry of Home Affairs.¹⁸ A. Voigt also separately mentioned the few Swiss machines in Saxony that weren't supplied by him. Through these documents we know about the first 16 owners of hand embroidery machines in Saxony who all in all owned 97 machines with approximately 22,000 needles in total:

Location	Customer	Number of Machines
Plauen	Company Schnorr & Steinhaeuser	39
	Graefe Brothers	4
	Company Mammen	4
	Eduard Mueller	2
	Sebastian Bodmer	2
	L. Kollert	2
	Anton Falke	2
Adorf	Company Goesmann	25
Eibenstock	Company E. Priem & Co	5
	Jacob Kessler	2
	Carl Lipfert	2
Schneeberg	C. Gottfried Haenel	2
Auerbach	Erich Martin	1
Markneukirchen	Eduard Mueller	1
Schoeneck	L. Aug. Lederer	1
Leipzig	Franz Dietel	3

The dates for the installation of the machines at the individual places could only be exactly identified for the company Schnorr & Steinhaeuser as well as for Goesmann by the author. The above mentioned sequence (original from the document) is most likely not in correct chronological order.

The first Saxon patent regarding an embroidery machine was registered for the owner of a mechanical engineering company in Chemnitz, Richard Hartmann, on behalf of the Swiss company "Maschinenfabrik St. Georgen" in 1859 (Patent No. 1042 from 1st July 1859 "for a double embroidery machine").¹⁹ Obviously, this patent interfered with the plans of Albert Voigt for his own production of embroidery machines. Therefore, he travelled to Dresden in 1859 and tried to prevent registration of this patent.¹⁰ In 1862, Albert Voigt got his first patent (Patent No. 1404 from 26th March 1862 "for improvements on Swiss embroidery

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machine”).¹⁰ Unfortunately, only the patent register was found from then but not the complete specification with all the details. This means it is also not possible to clarify the term “double embroidery machine“. Perhaps it was a machine with four levels of needle beams? On the list of embroidery machines in the area of the Chamber of Industry and Commerce in Plauen only one embroidery company in Adorf was identified with such a machine at the end of 1863.²⁰ Most likely, this machine was delivered by the company “Maschinenfabrik St.Georgen” in Switzerland.

When looking at the historical data objectively one has to acknowledge that there was a huge knowledge and technology transfer from the east of Switzerland in the early years of machine embroidery in the Vogtland area. This includes the fact that Albert Voigt was educated in St. Gallen to build embroidery machines between 1851 and 1858 during 3 longer stays. In addition, already in 1858 the Swiss designer Wartmann was employed by the company Schnorr & Steinhäuser in Plauen.⁸

For the historical placement of this episode during the industrialisation of Saxony please refer to the extraordinary comprehensive report by Hubert Kieseewetter which is based on intensive and meticulous research.²¹

Working historical hand embroidery machines (made in Chemnitz and Plauen in the years between 1905 and 1910) can be seen in West Saxony in the Museum of Industry in Chemnitz, the Embroidery Museum in Eibenstock and the Embroidery Museum in Plauen (so-called “Schaustickerei”).

References and Footnotes:

- ¹ Heilmann, Josué: *Machine-à-Broder*
in: Bulletin de la Société Industrielle de Mulhausen, 1835, Tome VIII,
p. 209 – 251.
- ² Anonymous: *Heilmann's Stikmaschine*.
in: Dinglers Polytechnisches Journal, 1836, Band 59, Nr. II., p. 5–24,
available as a digital copy on the Internet at:
URL: <http://dingler.culture.hu-berlin.de/article/pj059/ar059002>
[retrieved 2nd August 2012]
- ³ Bein, Louis: *Die Industrie des sächsischen Voigtlandes, Zweiter Theil: Die Textil-Industrie*.
Leipzig: Verlag von Duncker & Humblot 1884, p. 263
- ⁴ Stadtarchiv Plauen, Nachlass Böhler
- ⁵ Wartmann, Hermann: *Industrie und Handel des Kantons St.Gallen auf Ende 1866*.
St.Gallen: in Commission bei Huber & Comp. 1875, p. 558
Because the company Boehler had customers in the east of Switzerland it could be possible that the contact for the sales of the embroidery machine from the mechanic Eisenreich to the manufacturer Jakob was arranged by Ludwig Boehler.
- ⁶ Ibid., p. 556

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- ⁷ Carus, Carl Gustav:
The King Of Saxony's Journey Through England And Scotland In The Year 1844.
London: Chapman and Hall 1846, p. 257
- ⁸ Voigt, Albert: unpublished notebook, in private ownership.
The fact that more than those two known embroidery machines came to Plauen from Switzerland before 1860 was published on 6th March 1890 by Louis Hoepfner in a lecture in the commercial club of Plauen for the first time. Misleadingly, he spoke of 18 additional machines although only 10 machines arrived.
The speech „*Vortrag über die Entwicklung der Industrie in Plauen durch die Appretur-Anstalten*“ was published in: *Vogtländischer Anzeiger und Tageblatt* (1890), Nr. 63 vom 18.03.1890, p. 9-10, Plauen: Verlag Moritz Wieprecht
Fedor Schnorr, Gustav Steinhaeuser and Frederick Roth, who all were still alive in the 1890s in Plauen, have never made any public comments about the accurate machine inventory for the time between 1858 and 1860 at the company Schnorr & Szeinhaeuser.
- ⁹ Sächsisches Staatsarchiv, Hauptstaatsarchiv Dresden,
10736 Ministerium des Innern, Nr. 5752, sheets 80 – 107.
Acta Kohl, Bericht über die auf einer technischen Reise, vorzugsweise in den Kantonen St.Gallen und Appenzell, gemachten Beobachtungen, eingereicht mit Schreiben vom 19. März 1856.
[Acta Kohl, report about the technical observations during a trip to the counties St. Gallen and Appenzell, submitted on 19th March 1856.]
From his journey to Switzerland, Frederick Kohl even brought back four pieces of machine embroidered samples from an unnamed manufacturer (attached to the report and preserved until today!) and made a very instructive economic feasibility study.
- ¹⁰ Voigt, Albert: unpublished letters to his girlfriend Rosa Feller from 1857 to 1860, in private ownership.
- ¹¹ Iklé, Ernest: *La Broderie Mécanique 1828 – 1930.* Paris: A. Calavas 1931, p. 27 f.
Compare: Ehrhardt, Willy: *Das Glück auf der Nadelspitze.* Plauen: Vogtland-Verlag 1995, p. 21 ff.
- ¹² *Vogtländischer Anzeiger und Tageblatt* (1907), Nr. 253 vom 29.10.1907, Zweites Blatt,
Plauen: Verlag Moritz Wieprecht
- ¹³ Wipf, Hans Ulrich; König, Mario; Knöpfli, Adrian:
Saurer. Vom Ostschweizer Kleinbetrieb zum internationalen Technologiekonzern.
Baden: hier+jetzt Verlag 2003, p. 42 f.
- ¹⁴ Stadtarchiv Plauen, Nachlass Roth
- ¹⁵ Ruch, Fritz: Bertrand Roth. *Das Leben und Wirken eines Liszt-Schülers.*
Zürich: Musikverlag PAN 1998, p. 135 f.
- ¹⁶ Naumann, Friedrich: *Fürchtegott Moritz Albert Voigt (1828 – 1895), Zum 100. Todestages des Chemnitzer Erfinders, Unternehmers und Begründers der deutschen Stickmaschinenindustrie.*
in: *Sächsische Heimatblätter* 3/1995, pp. 126 – 132.
- ¹⁷ Anonymous: *Sächsische Stickmaschinen-Fabrik vormals Albert Voigt Kappel-Chemnitz Sachsen. Ihrem hochgeschätzten Chef Herrn Albert Voigt in dankbarer Anerkennung und Verehrung. Die Beamten der Sächsischen Stickmaschinen-Fabrik. Kappel, im April 1885.*
Archive: Industriemuseum Chemnitz
[To our esteemed boss Mr. Albert Voigt in grateful recognition and admiration.
The officers of the Saxon Machine Embroidery Factory. Kappel, in April 1885]
The honorary publication (unbound and without pagination) is in a casket made from ebony.

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- ¹⁸ Sächsisches Staatsarchiv, Hauptstaatsarchiv Dresden,
10736 Ministerium des Innern, Nr. 6022.
Bericht Hülßes vom 29.3.1863 an das Kgl. Mdl, Stickmaschinen betr.
- ¹⁹ Sächsisches Staatsarchiv, Hauptstaatsarchiv Dresden,
10736 Ministerium des Innern, Nr. 23180.
Patent-Register 1839 – 1863
- ²⁰ Jahres-Bericht der Handels- und Gewerbekammer zu Plauen 1862 und 1863.
Plauen: Druck von Moritz Wieprecht 1864, p. 190
- ²¹ Kiese Wetter, Hubert: *Die Industrialisierung Sachsens. Ein regional-vergleichendes Erklärungsmodell.*
Stuttgart: Franz Steiner Verlag 2007

Acknowledgements

My special thanks go to my daughter Madlen Strobel
for her English translation of this article.