

FRIEDRICH AUGUST NAUCK (1855–1913) – GRADUATE OF RIGA POLYTECHNICUM, INITIATOR OF CONTROL-TICKET PRINTING IN RIGA

ILZE GUDRO*
ALĪDA ZIGMUNDE

Riga Technical University

Summary. A graduate of Riga Polytechnicum (RP) (1878), Friedrich August Nauck (1855–1913) was a son of the first director of RP, Ernst Nauck (1819–1875), an engineer, the initiator of public transport and various entrance control-ticket printing in Riga. The aim of the research is to reflect the activities of F. A. Nauck's Printing House and the beginnings of control-ticket printing, identifying control-tickets that have survived to the present day in various archives and museum collections. The Printing House established by F. A. Nauck in 1888, in Riga, operated until 1939. The engineer invented various devices for a successful operation of the Printing House. F. A. Nauck was an active member of Riga Technical and Riga Craft Society, he presented reports on various topics and was one of the directors of the Riga Horse Railway Society (1885–1889). In the research, great attention is paid to the family of F. A. Nauck and its descendants to the present day.

Keywords: Riga Polytechnicum, control-ticket printing, the Naucks family Printing House, Friedrich August Nauck.

Introduction

About the most famous representative of the Nauck Family – the first Director of RP E. Nauck – who came to Riga from Prussia in 1862, several studies have undergone. They were performed by Professor of the Riga Polytechnic Institute (RPI) *Konstantīns Kreišmanis* (1907–1996), historian of sciences *Ilgars Grosvalds* (1927–2019), as well as one of the

* Corresponding author.

E-mail: Ilze.Gudro@rtu.lv

© 2020 Ilze Gudro, Alīda Zigmunde. Publisher RTU Press.
This is an open access article licensed under the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>).

authors of this article – *A. Zigmunde*, whose scientific monograph on the first director of RP and his family was published in 2019, celebrating E. Nauck's 200th birthday.

E. Nauck had 10 children in his family, and like their father, the children were closely involved in engineering. F. A. Nauck was the third son of E. Nauck and a graduate of the Department of Mechanical Engineering of RPI, whose contribution to the printing of control-tickets is evaluated in this article.

When F. A. Nauck founded his own Ticket-Printing House (1888), Louis Eugene Dupont (1839–1901) established a tram traffic in Riga [1; p. 84], which was the sixth type of public transport in the city excluding the already existing steamboats, boats, horse-drawn omnibuses, omnibuses and passenger railway traffic. Conductors sold tickets in tram traffic. Tickets were printed in rolls, which were handed out to the conductors in the office against a signature. In order for the passenger and the conductor to verify the validity of the ticket, the conductor had to write on the black board in the tram wagon the number of the wagon (tram lines) and the number of the last ticket sold at each destination [1; p. 87]. It was also necessary for passenger registration. In the middle of the 19th century, there were about five printing houses in Riga; in 1910, there were almost 50 printing companies [2] engaged in the printing of various printed matter. Until 1888, tram control-tickets were printed in St. Petersburg in the Lithography of William von Köhne (?-?). At W. von Köhne's Printing House, tickets were printed on separate sheets. The sheet was then cut and the tickets attached to a booklet.



Figure 1. Tickets for the Riga Street Railway printed in William von Köhne Printing House (1886, 1887).

After engineer F. A. Nauck founded his own Printing House (1888), public transport and entrance tickets were printed by his company. It existed until 1939, when the family of F. A. Nauck left Latvia and sold the equipment of his company to the Riga City Traffic Board (at present – LTD «*Rīgas satiksme*»). When leaving Latvia, the family did not legally liquidate the company. On 28 December 1939, it was taken over by the Riga City Traffic Board.

As mentioned above, numbered tickets were already printed in W. von Köhne's Lithography, but engineer F. A. Nauck, using his engineering knowledge, designed and built a device, the analogue of which was very expensive abroad, and thus he was able to compete in the field of control-ticket printing starting to print tickets on rolls. It is possible that the idea was borrowed by the engineer himself, working as a Technical Director of the Riga Horse Railway Society. At that time, F. A. Nauck's Printing House was the only one in the territory of present-day Latvia that printed numbered tickets not only for horse and electric trams, buses and steamboats, but also entrance tickets for saunas, zoos, etc., as well as lottery tickets.

Friedrich
August Nauck
(1855–1913) –
Graduate of Riga
Polytechnicum,
Initiator of
Control-Ticket
Printing in Riga

Friedrich August Nauck (1855–1913) and His Family

Friedrich August Nauck (1855–1913) was the third of ten children of the first director of RP (1862–1875) Professor Ernst Nauck (1819–1875) and Charlotte Wilhelmine Aurora Nauck (b. Schmidt; 1826–1880).



Figure 2. Friedrich August Nauck (1870s).

F. A. Nauck was born in Krefeld and later, in 1862, when his father changed the work place, he moved to Riga with his father, mother, brothers and sisters. In Riga the family lived at 40 *Elizabetes* Street, later at No. 38 [3].

In 1882, in Riga, F. A. Nauck married Emma Maria Dettloff (1859–1942). The family had six offsprings. Until 1913, the family resided in different places in Riga – 20 *Baložu* Street [4], 8 *Margarietas* Street [5], 123 *Dzirnavu* Street, 20 *Margarietas* Street [6], 15 *Baldones* Street. The family lived in the last place of residence until emigration to Germany in 1939. 15 *Baldones* Street also housed the family business – a Printing House and a Flour Mill.



Figure 3. Emma Maria Nauck (1920s).

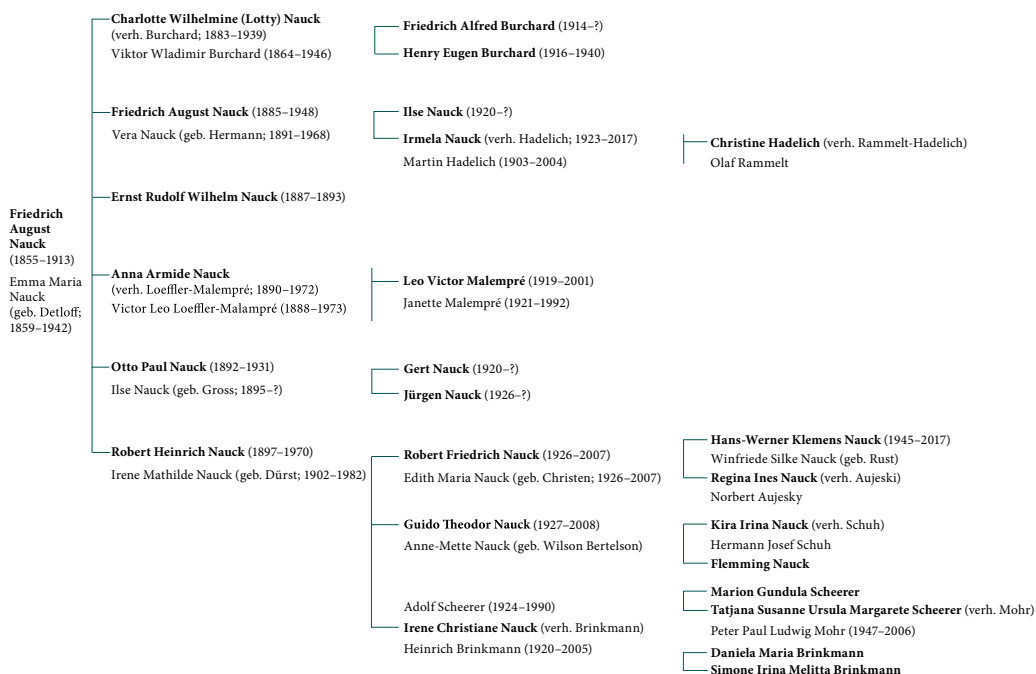


Figure 4. The Family of Friedrich August and Emma Maria Nauck.



Figure 5. Residence of F. A. Nauck at 20 *Baložu* Street (2019).

Friedrich
August Nauck
(1855–1913) –
Graduate of Riga
Polytechnicum,
Initiator of
Control-Ticket
Printing in Riga

Ernst Rudolf Wilhelm Nauck (1887–1893), a son of engineer F. A. Nauck, died at the age of five.

F. A. Nauck's son Friedrich August Nauck (1885–1948), junior, after graduating from the Riga City Real School in 1904, entered the Department of Mechanics of RPI, but due to the revolutionary events of 1905 the university in Riga was closed and he had to interrupt his studies. F. A. Nauck junior went to study at Gdansk University of Technology where a number of former RPI students were studying at the time. He returned to Riga in August 1906 and in 1913 received a Diploma of Engineering Technologist from RPI [7]. After World War I, he lived with his family in Germany.

The daughter of F. A. Nauck, Anna Armida Nauck (1890–1972), married Victor Leo Loeffler-Malampré (1888–1973) in 1914, in Yorkshire. The family had one son – Leo Victor Malempré (1919–2001).

Robert Heinrich Nauck (1897–1970), a son of engineer F. A. Nauck, studied theology at the University of Latvia [8], as well as at the universities of Tartu, Jena and Eisenach. From 1927 to 1949, he worked as a pastor in Germany [9]. He and his wife Irene Mathilde Nauck known as Rennie (b. Dürst; 1902–1982) had three children.

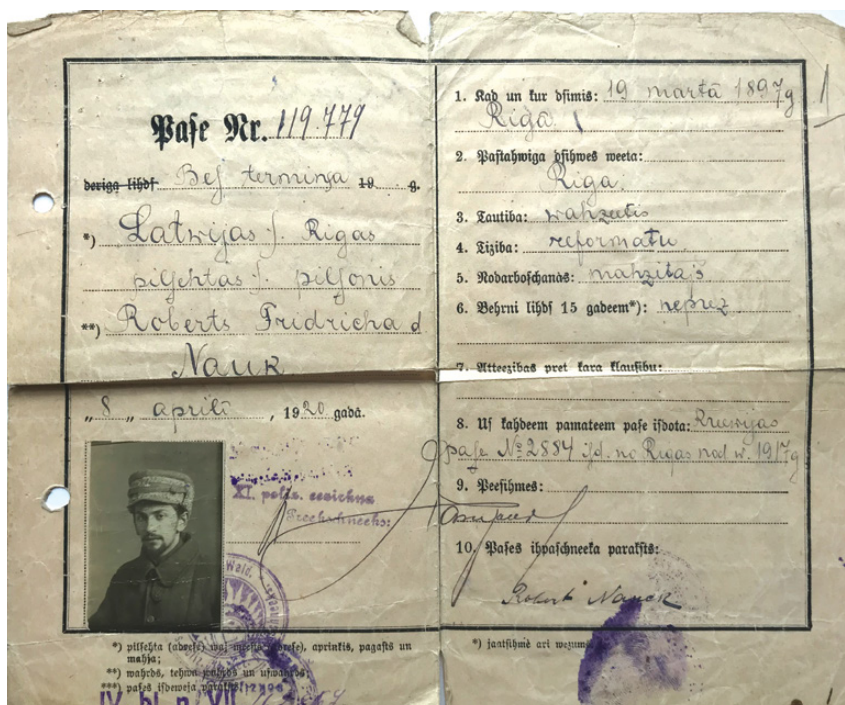


Figure 6. Robert Heinrich Nauck's passport of the Republic of Latvia (1920).

Robert Friedrich Nauck, a son of R. H. Nauck (1926–2007), married Edith Maria Christen (1926–2007) and had two children: Hans-Werner Klemens Nauck (1945–2017) and Regina Ines Nauck (m. Aujesky). In 2019, R. I Aujesky, on the occasion of the 200th birthday of her great-great-great-grandfather, the first Director of Riga Polytechnicum Ernst Nauck, visited Riga. She also visited E. Nauck's former workplace at 19 *Raiņa* (then – *Troņmantnieka*, in German – *Thronfolger*) Boulevard, and the grave of the Professor. Later she attended her great-great-grandfather F. A Nauck's place of residence and work (15 *Baldones* Street), as well as the Exhibition Hall of RTU Research Centre for Engineering History at 1 *Kronvalda* Boulevard, Riga, where the authors of this article introduced R. I. Aujesky to the RTU History Museum and testimonies about the first rector of the university.

After the death of F. A. Nauck in 1913 [10, 11], the Printing House founded by the engineer continued its operation run by his wife E. M. Nauck and their children – Charlotte (Lotty) Wilhelmine Burchard (b. Nauck; 1883–1939) and Otto Paul Nauck (1892–1931) with their families.

F. A. Nauck's daughter Ch. W. Burchard was the author of several books published in the 1920s–1930s. She has written poetry, prose, plays [12] and authored librettos for operettas [13]. She was married to merchant Viktor Wladimir Burchard (1864–1946) and they had two sons. The eldest – Friedrich Alfred Burchard (1914–?) – studied in the Faculty of Mechanics of the University of Latvia (1934–1939) [14], the youngest – Henry Eugen Burchard (1916–1940) had studied theology [15]. The family emigrated to Germany in 1939.

Friedrich
August Nauck
(1855–1913) –
Graduate of Riga
Polytechnicum,
Initiator of
Control-Ticket
Printing in Riga

Figure 7. Charlotte Wilhelmine Burchard (early 1930s).



Figure 8. Charlotte Wilhelmine Burchard (from the left) in newspaper «Riga am Sonntag» (1929).



F. A. Nauck's son O. P. Nauck studied mechanics at RPI during academic year 1913/1914. However, World War I began and the young man took part in the battles against Germany; and after the war in the Latvian War of Independence [16]. O. P. Nauck married Ilse Gross (1895–?). The family had two sons – Gert Nauck (1920–?) and Jürgen Nauck (1926–?). The family emigrated to Germany in 1939.

Figure 9. Otto Paul Nauck (early 1930s).





Figure 10. Ilse Nauck (1920s).

Professional and Social Activities of Engineer Friedrich August Nauck, Graduate of the Department of Mechanical Engineering of Riga Polytechnicum

F. A. Nauck studied at a Real Gymnasium in Riga. After graduating, he was a student of RP Preparatory School for two years (1872–1874), then followed his studies in the Department of Mechanical Engineering of RP, from which F. A. Nauck graduated in 1878 [17; p. 169].

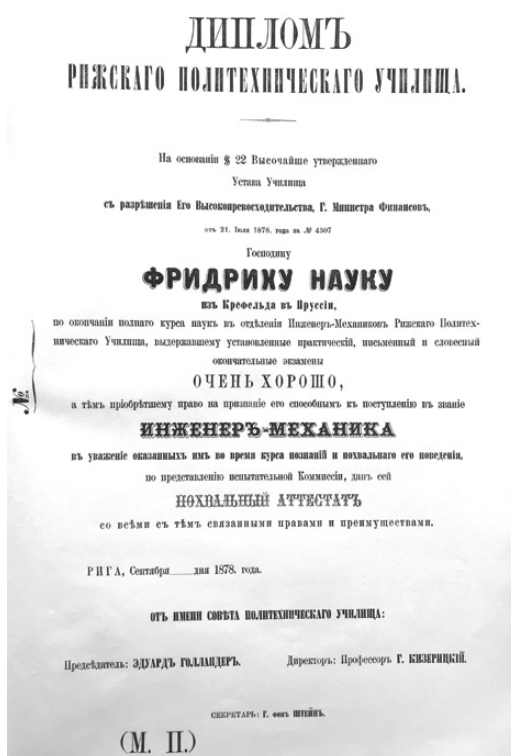
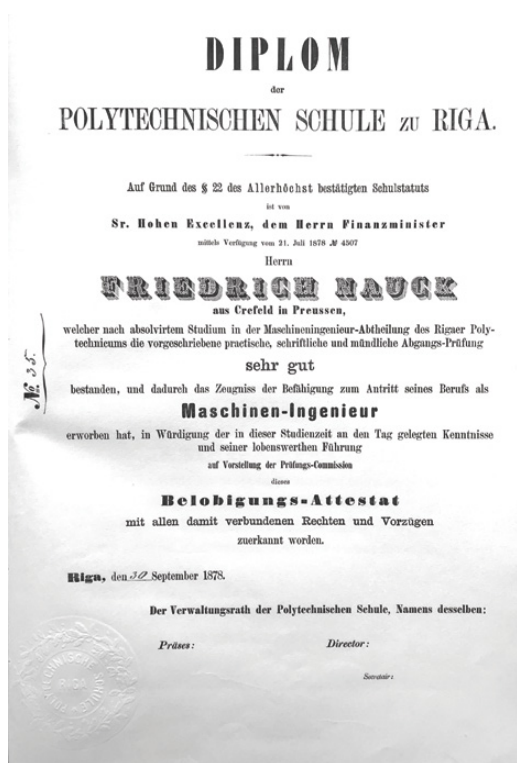


Figure 11. Diploma of Riga Polytechnicum in German and Russian issued to F. A. Nauck (1878).

After studies, being a Prussian national, F. A. Nauck had to serve in the army in Erfurt (Erfurt – now the Federal Republic of Germany) for one year.

In 1880, F. A. Nauck started working for RP as a second assistant in mechanical engineering [18; p. 1]; in 1881 – as an assistant in machine technology. He left this job in August 1881 to focus on practical work [18; p. 27]. After studies at RP, F. A. Nauck worked for some time as a teacher of fine geometry at the Riga City Real School [19]. In 1881, the engineer joined the *Tukums* railway. In 1885, F. A. Nauck became Technical Director of the Riga Horse Railway Society and held the position until 1889.

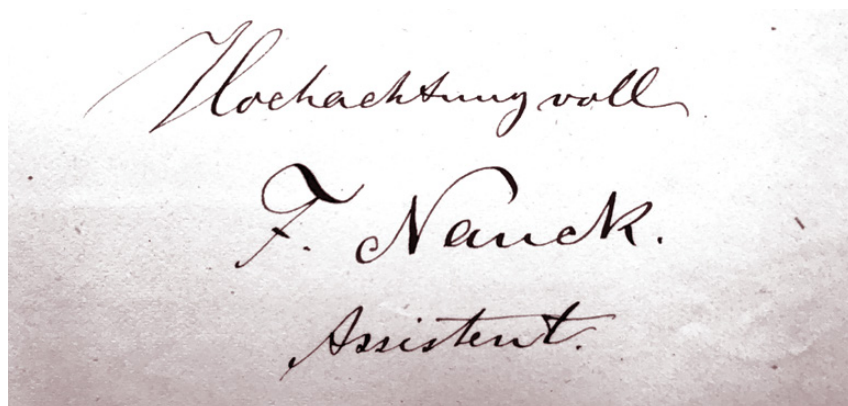


Figure 12. Signature of F. A. Nauck (1880), starting his job as an assistant at Riga Polytechnicum.



Figure 13. Riga Horse Railway Society personnel record sheet for employee F. A. Nauck (1880s).

Engineer F. A. Nauck was a member of the Riga Craft Society (founded in 1865) – he joined the Society’s Training Committee and was also its Chairman. F. A. Nauck was also a member of the First Riga Cycling Society (founded in 1886) [20] and the Riga Technical Society (founded in 1858).

Riga engineer and businessman F. A. Nauck was interested in the latest discoveries in the world and shared his knowledge at societies' meetings. F. A. Nauck' versatility is evidenced by the reports prepared by him on various topics, summaries of which could be read in local newspapers.

For example, at the evening of discussions at the Riga Craft Society in November 1879, engineer F. A. Nauck presented a report on an electric train and its equipment, which was exhibited at an industrial exhibition in Berlin. The engineer enriched the report with his drawings. The rapporteur visited the exhibition in 1879, and at the time, it was a sensation that was talked about all over the world. At the exhibition, German engineer Werner von Siemens (1816–1892) demonstrated the first electric locomotive and electric railway in history. The locomotive was designed by company «*Siemens und Halske*» [21].

In September 1880, at the evening of discussions of the Riga Craft Society engineer F. A. Nauck answered to questions about the difference between bombs and grenades and told about shrapnel [22].

In January 1888, F. A. Nauck told the Riga Technical Society about his own ticket printing machine, also demonstrating it. In the same year he founded his own Printing House [23].

In November 1893, F. A. Nauck reported to the Riga Technical Society about chenille fabric and its peculiarities [24].

In October 1894, regarding his professional activity of installing a steam boiler that operated a mill to produce flour, F. A. Nauck gave a presentation on flour production at a meeting of the Riga Technical Society [25]. In December 1894, at the evening of the discussions of the Riga Craft Society, which was also attended by women, F. A. Nauck explained how baking powder, which replaces yeast, is made [26]. At that time, there were only men in the societies, but as a result of emancipation, women were also invited to certain society's events.

In 1895, the engineer read several reports on modern printing equipment and its improvements [27]. At the October 1895 meeting of the Riga Technical Society, engineer F. A. Nauck reported on innovations in printing industry (citing «*Koenig*» high-speed printing and cylindrical printing equipment as an example) [28]. Taking into account the interest of the listeners, the cycle of lectures continued until November. At the meeting of the Riga Technical Society in November of the same year, the engineer spoke about the census data processing machine [29]. He was one of the first engineers to talk about mechanized censuses in present-day Latvia, which began a few years later, in 1897. In his article, mechanical engineer F. A. Nauck described in detail the census machine, the forerunner of a mechanized computer, invented and patented by the American engineer Hermann Hollerith (1860–1929) in order to compile

data from the 1880 US census. In 1924, H. Hollerith's company became IBM (International Business Machines Corporation).

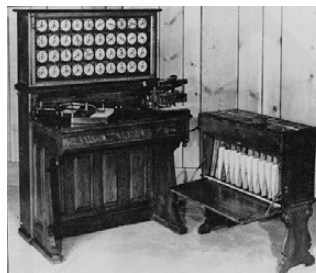


Figure 14. H. Hollerith's census machine (1890).

In April 1898, F. A. Nauck gave a presentation on the use of acetylene gas for lighting devices in the Riga Technical Society [30]. Gas for lighting has been used since the second half of the 19th century.

In November 1898, at the evening of discussions at the Riga Craft Society, F. A. Nauck gave a lecture on the importance of machines in human household [31]. The lecture was repeatedly read with demonstrations at the evening of December 1904 discussions of the Riga Craft Society. The event was attended by ladies, together with their spouses, who could not only watch the demonstrations, but also try out the new equipment and ask the spouses to order the equipment of their choice as a Christmas present [32].

In November 1898, at a meeting of the Riga Technical Society, the engineer gave short reports «From Factory Practice» on the importance of practice in factories [33].

In January 1899, an engineer reported to the Riga Technical Society about the loss of power from a steam mill and other equipment due to a damaged transmission. F. A. Nauck emphasized that such a problem has not been studied and that the damage is caused not only by improper maintenance of equipment, but also because of buildings (factories) sinking into the ground [34].

In December 1899, at the evening of discussions at the Riga Technical Society, the engineer reported on the drying equipment. It was a topical issue in damp rooms. Ventilation and solar heat capacity in industrial production was insufficient. At that time, for example, air dryers were used to remove moisture. Moisture removal was also relevant in sugar factories. There were special heated pipes in the lower part of the drying rooms, but ventilation hatches were installed on the roof, through which the moist air was removed from the room. Dry steam heating chambers were also available. Various other methods for removing moisture introduced in industrial production were mentioned in the discussions, such as vacuum devices, which were also used in sugar processing. The

drying process had to be fast and cheap – these were the main principles needed in production [35].

At the November 1903 meeting of the Riga Technical Society, the engineer reported on gas engines, which around 1900 replaced the existing steam engines. Gas engines lasted for a short time and were replaced by diesel engines [36].

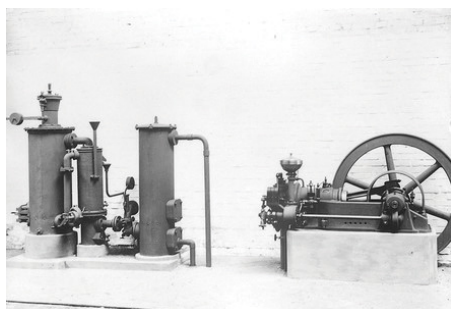


Figure 15. Gas engine
(*Sauggasmotor*) (circa 1900).

In November 1907, F. A. Nauck presented a report «Technique and Comparative Nature Research» at the Riga Technical Society. The engineer told how it is possible to find solutions in strength structures in nature, citing as an example the fact that the thick, large branches of tall tree crown are on the side of the prevailing winds. At the end of the report, the author emphasized that it is necessary to study not only the laws of physics and chemistry, but also to compare them with observations in nature [37].

In March 1908, at the Riga Technical Society, F. A. Nauck presented an extensive report on the history of automobiles over 400 years. Using projector, the engineer exhibited various ancient wood carvings by the famous German painter and graphic artist Albrecht Dürer (1471–1528), as well as engraving «Large Triumphal Carriage» («*Der große Triumphwagen*») [38]. The engineer explained the evolution of car development and the problems solved by the inventors, such as the uncertainty about stopping the vehicle, how it is possible to drive vehicles in a personalized way (without horses, etc.). Practical studies have provided many answers to previously unclear questions [39].

The engineer did most of his research in order to develop his companies – to establish a printing house, as well as to improve the steam mill equipment for flour production.

The engineer is also well-known for his contributions for religious and cultural purposes. For example, in 1908, F. A. Nauck donated 600 rubles to the Riga Branch of the German Union for the construction of a new school building [40].

Operation of F. A. Nauck's Family Printing House (1888–1939)

The history of modern public transport, as well as control-tickets, is inconceivable without the Printing House founded by Friedrich August Nauck, a graduate of the Department of RP. Engineer F. A. Nauck founded a Printing House in 1888, where he printed tickets for public transport (horse railway, tram, bus, and steamer traffic), various entrance tickets, lottery tickets, etc. [41].

F. A. Nauck invented the printing equipment, which printed the tickets on rolls and numbered them ensuring their control, as well as improved it by increasing the printing speed. He used «*Koenig*» high-speed printing principles as a basis. Given the cost and capacity of the foreign-made equipment, which was too large for the domestic market, F. A. Nauck manufactured the equipment himself. The first machine was 70 cm high and could produce about 200 tickets per minute [41]. The authors could not find a picture of this device, but the printed tickets had a design that could be used to identify the company.

Friedrich
August Nauck
(1855–1913) –
Graduate of Riga
Polytechnicum,
Initiator of
Control-Ticket
Printing in Riga

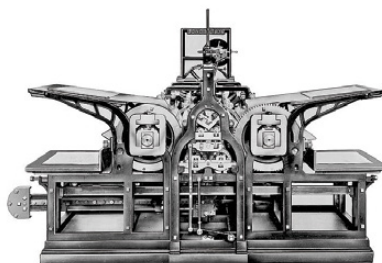


Figure 16. The very first high-speed printing machine by Friedrich Koenig (1814).

The Riga engineer improved his printing equipment and gradually expanded his Printing House, he had to look for bigger premises. Rigan F. A. Nauck followed the development of printing technology in the world, including the activities and innovations of the oldest printing and manufacturing company «*Koenig & Bauer*», founded in 1817. This company operated in St. Petersburg. In the early 1890s, it began manufacturing equipment for making securities.

In 1895, F. A. Nauck mentioned this company in his report at the evening of discussions of the Riga Technical Society, as well as talked about the production and reproduction of photographs [28].

With the development of public transport, control-tickets in numbered rollers also began to be sold for traffic buses, ships, steamboats, saunas, markets, grocery stores, sports associations, and cinemas, thus F. A. Nauck's Printing House increased its production capacity [42]. It is known that the Printing House also printed lottery

tickets and entrance tickets to the Riga Zoo. In the 1920s, the workload of the Printing House increased, tickets were ordered from various places in wide Russia – even from the Far East. On all tickets it could be read that they were printed by F. A. Nauck in Riga [43]. In order to find evidence of the Printing House’s activities, the authors have researched various tickets in Latvian museums and private collections, searching for the name of F. A. Nauck’s company on them. During the research, they were found in the Museum of the History of Riga and Navigation, in the archives of the Riga Traffic Museum, Jelgava History and Art Museum of Gedert Elias, RTU History Museum, and private archive of publicist *Iļja Dimenšteins*. Until now, the ticket manufacturer has not been indicated in the descriptions of museum collection items.



Figure 17. Entrance tickets to the Riga Zoo printed by F. A. Nauck’s Printing House (early 20th century).



Figure 18. Riga street railway ticket printed by F. A. Nauck’s heirs Printing House (1920s).

Friedrich
August Nauck
(1855–1913) –
Graduate of Riga
Polytechnicum,
Initiator of
Control-Ticket
Printing in Riga

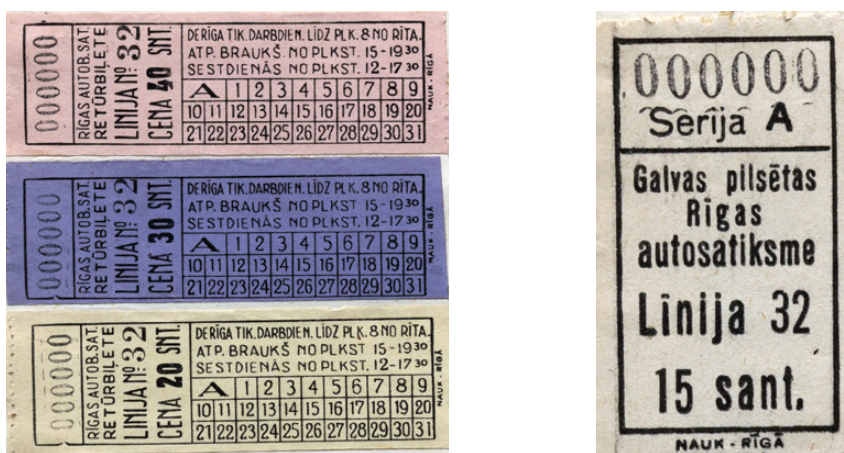


Figure 19. Tickets for bus route No. 32 printed in F. A. Nauck's heirs Printing House (1939).



Figure 20. Tickets for tram routes No. 11 and No. 12 printed in F. A. Nauck's heirs Printing House (1930s).



Figure 21. Ticket for the *Rīga-Jelgava* car transport printed in F. A. Nauck's heirs Printing House (1930s).

The exact primary address of F. A. Nauck's Printing House is not known. In 1892, the engineer worked at 17 *Smoļenskas* (at present – *Pušķina*) Street, where two hand-held printing machines were located [44]. In 1893, a steam mill was built at 11 *Smoļenskas* Street to produce flour [45]. In the same year, the engineer moved both the printing house and the steam mill to 124 *Lielā Maskavas* (at present – *Maskavas*) Street and ordered an engine for the mill [46]. In 1895, a steam boiler was installed at 124 *Lielā Maskavas* Street [47]. In May of the same year, a fire broke out in the engineer's Printing House. The building was burning from noon to seven in the evening, it was

difficult for firefighters to put the fire out – part of the mill, printing house, equipment and facilities, as well as flour and rye burned down. Fortunately, the engineer had insured his property and was soon able to move to new premises [48].

For some time, F. A. Nauck's Lithography and Printing House was located in villa «*Sorgenfrei*» (address – *Pēterburgas Highway* (at present – *Brīvības Alley*)). In 1899, it was moved to *Zasulauks*, to factory «*Motors*» at 2 *Šampētera Street* [49].



Figure 22. Address of Ticket Printing House «F. Nauck» in factory «*Motors*», Sassenhof (1901).

In 1905, the Printing House was moved from the premises of factory «*Motors*» to 5 *Marijas Street* [50]. In 1910, it changed its address again, this time to 15 *Baldones Street* [51], where it operated until 1939.



Figure 23. Building at 15 *Baldones Street* in Riga (August 2019).

Table 1

Addresses of F. A. Nauck's place of residence and Printing House in Riga

Year	Place of residency	Address of Printing House and workshop of steam mill
1891	20 <i>Baložu</i> Street	Not known
1892	Not known	17 <i>Smoļenskas</i> Street (there are two hand-held printing machines)
1893	Not known	11 <i>Smoļenskas</i> Street (steam mills installed), later moved to 124 <i>Lielā Maskavas</i> Street
1893/1894	Not known	124 <i>Lielā Maskavas</i> Street (steam mills installed)
1899	Not known	Villa « <i>Sorgenfrei</i> » (later moved to factory « <i>Motors</i> »)
1900	8 <i>Margarietas</i> Street	Factory « <i>Motors</i> » <i>Zasulauks</i> , 2 <i>Šampētera</i> Street
1905	Not known	From 2 <i>Šampētera</i> Street to 5 <i>Marijas</i> Street
1906	123 <i>Dzirnavu</i> Street	Not known
	Not known	Not known
1910	20 <i>Margarietas</i> Street	From 5 <i>Marijas</i> Street to 15 <i>Baldones</i> Street
1911–1939	15 <i>Baldones</i> Street	15 <i>Baldones</i> Street

Friedrich August Nauck (1855–1913) – Graduate of Riga Polytechnicum, Initiator of Control-Ticket Printing in Riga

After the engineer's death in February 1913, the Printign House continued to operate and was run by his widow E. M. Nauck, son O. P. Nauck and daughter Ch. W. Burchard. The name of the company also changed – «*F. Nauck*» was renamed «*E. un O. Nauck*» (presumably E – Emma; O – Otto). This company name existed until 1934.

Figure 24. Advertisement of Printing House «*E. un O. Nauck*» in Latvian and Russian in newspaper «*Latvijas Pašvaldību Darbinieks*» (1932).



In 1931, after the death of O. P. Nauck, the Printing House was inherited by his wife I. Nauck and her sons Gert and Jürgen. On 3 December 1934, the widow remarried to Erich Fleischer (1891-?). The family of F. A. Nauck did not want the family business cherished by it for decades to come into the possession of I. Nauck's second husband. This is evidenced by the request of F. A. Nauck's widow E. M. Nauck to the Riga City Orphan's Court to revoke E. Fleischer's guardianship over their grandchildren Gert and Jürgen [52]. And on 11 December 1935, according to the decision of the judge of the Commercial Register of the Riga Regional Court (register No. 3122), the company was solely managed by E. M. Nauck, therefore the Printing House was renamed «*E. Nauk*» [53].



Figure 25. Advertisement of Printing House «*E. Nauk*» in monthly «*Audzinātājs*» (1935).



Figure 26. Address of Printing House «*E. Nauk*» in newspaper «*Latviete*» (1936).



Figure 27. Signature of Emma Maria Nauck (1935).

Apparently, the inheritance litigation continued. For a while, in 1937, the Printing House remained unnamed. In 1936, L. Burchard applied for permission to run the company as a procurator. In 1937, she was given this right, and its name was changed again, this time to «*L. Burchards – E. Nauk*» [54].



Figure 28. Advertisement of Ticket Printing House at 15 Baldones Street in newspaper «*Sporta Pasaule*» (1937).



Friedrich
August Nauck
(1855–1913) –
Graduate of Riga
Polytechnicum,
Initiator of
Control-Ticket
Printing in Riga

Figure 29. Request of Lotty Burchard-Nauk, a trustee of company «E. Nauk», to register the firm (1936).



Figure 30. Address of Printing House «L. Burchards – E. Nauk» in magazine «Skolu Dzīve» (1937).

Before the family (E. M. Nauck, I. Fleischer with sons Gert and Jürgen, L. Burchard with her family) left to Germany in 1939, the only trams, buses and steamboats tickets (including entrance and lottery tickets for various events) Printing House in Latvia bought Riga City Traffic Board, which moved the printing house to 171 *Brīvības* Street. In the same year, the Board took over the printing house and continued the work started in ticket printing. The municipalities of *Jelgava*, *Liepāja*, *Daugavpils*, *Ventspils* and other cities also needed various control-tickets in larger quantities, and the administration planned to print these tickets as well. As the number of passengers increased rapidly, more tickets were needed. In 1884, the number of passengers carried by the Riga Street

Railway was 3 million, in 1894 – already 4.3 million passengers. In 1939, the administration sold almost 70 million tickets a year [55].

Table 2

Passengers carried by the Riga Street Railway of the Riga City Traffic Board
(1898–1929) [56]

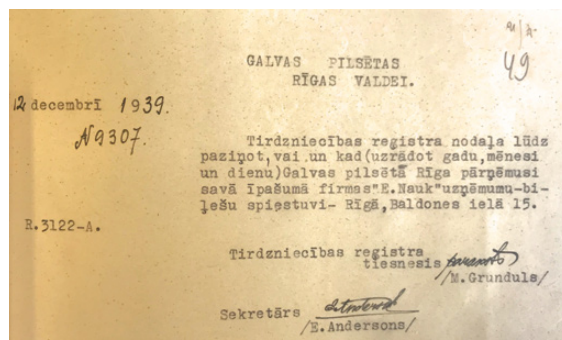
Year	Number of carried passengers
1898	6 572 665
1899	6 857 845
1900	6 788 446
1901	7 514 450
1902	18 050 865
1903	19 755 514
1904	21 721 967
1905	–
1906	20 235 297
1907	27 162 610
1908	29 404 058
1909	30 425 954
1910	34 960 175
1911	40 700 277
1912	46 658 784
1913	52 132 138
1914	50 794 973
1915	35 778 410
1916	18 363 880
1917	16 525 185
Ticket price: 3–25 kopecks	
1918	–
1919	–
1920	15 517 859
Ticket price: 1 ruble and 30 kopecks	
1921	18 099 376
1922	20 878 021
1923	28 948 368
1924	34 695 105
Ticket price: 7 and 11 santims	
1925	36 761 234
1926	41 463 640
1927	45 250 346
1928	48 219 388
1929	49 421 386

On 10 November 1939, Riga notary *Jānis Krūklānds* (1878–1941), based on the Law of 4 July 1939, «*Par tirdzniecības uzņēmumu pāreju*» («On the Transfer of Trading Companies»), announced that Emma Nauck, living at 15 *Baldones* Street, Riga, had sold the existing printing equipment at 15 *Baldones* Street, Riga for 28 000 lats [57]:

- 1) 1 high-speed printing machine «*Pautze*»;
- 2) 1 high-speed printing machine, self-constructed, heavier;
- 3) 1 high-speed printing machine, self-constructed, lighter;
- 4) 1 rotary machine, self-constructed;
- 5) 1 rotary cutting machine with a new set of spare knives;
- 6) 1 block ticket sewing machine;
- 7) 1 painting apparatus, self-constructed;
- 8) 1 ticket rewinding machine, self-constructed;
- 9) 1 check cutting machine;
- 10) a set of letters, numbers, brass strips and other;
- 11) spare numerators, spare parts, tools, transmissions and electric motor;
- 12) approx. 3000 kg of paper;
- 13) paints, chemicals, alcohol, approx. 2 tons of coke, approx. 6 axles (one axle – 6 x 6 feet with 5 splice long logs) firewood and small inventory [54; p. 41].

All the equipment was taken over by the capital city on 13 November of the same year. On 29 November 1939, the family emigrated to Germany without legally closing the company. By the decision of the judge of the Commercial Register of the Riga Regional Court of 12 December 1939, it was decided to transfer the Control-Ticket Printing House to the capital – Riga City Traffic Board [54; p. 49]. From 28 December of the same year, the Riga City Traffic Board took over the operation of the Printing House. In addition, from now on, public transport tickets were printed at the Capital City Riga Traffic Board Printing House. Officially the «*E. Nauck*» was deleted from the register of companies on 13 January 1940 [54; p. 57].

Figure 31. Statement of the Riga Trade Register Division regarding the Ticket Printing House «*E. Nauck*» takeover by the capital city (1939).



Conclusions

The son of the first Director of RP, Friedrich August Nauck, is one of the most prominent representatives of the Nauck family in Riga, who gained recognition first as the Director of the Riga Horse Railway Society, then as the owner of a steam mill and flour producer, and finally with his Printing House and various tickets. The Printing House operated for the longest time, and its products were known not only in Riga. F. A. Nauck got acquainted with the experience of foreign printing houses and invented his own equipment for printing houses, which was cheaper and was able to compete with those produced abroad. The Printing House has existed for more than 50 years, and its activities were closely connected with the development of engineering sciences and industrial design, which spread rapidly in the works of RP graduates from the second half of the 19th century and continued into the 20th century.

The authors of the article have discovered the extensive professional and social activities of engineer F. A. Nauck, described the activities of the Printing House until the beginning of the World War II in 1939, when F. A. Nauck's widow and family members moved to Germany. The research revealed that F. A. Nauck's Printing House was the pioneer of control-ticket printing in Riga and provided ticket accounting because they were numbered. The Printing House has been printing various tickets for Riga for 51 years. This is new, more accurate information about the products produced by the Printing House, which has not been identified so far.

REFERENCES

- [1] **Biedriņš A., Liepiņš E.** *Rīgas sabiedriskais transports no 19. gs. vidus līdz mūsdienām*. Rīga: Latvijas Industriālā mantojuma fonds, Rīgas satiksme, 2015, 84., 87. lpp.
- [2] **Karulis, K.** *Latviešu grāmata gadsimtu gaitā*. R.: Liesma, 1967, 116. lpp.
- [3] *Rigasches Adressbuch, 1868./1869*. Riga, 1869, S. 22.
- [4] *Locales. Zeitung für Stadt und Land*, 7. August 1891, No. 176, S. 4.
- [5] *Rigasches Adressbuch, 1901*. Riga, 1901, S. 204.
- [6] *Rigasche Industrie-Zeitung*, 15. Februar 1911, No. 3, S. 38.
- [7] RPI Studentu saraksti. Latvijas Nacionālā arhīva Latvijas Valsts vēstures arhīvs (turpmāk – LNA LVVA) 7175. f., 1. apr., 1907. l., 178. lp.
- [8] Studenta Roberta Heinriha personālieta. LNA LVVA 7427. f., 1. apr., 857. l.
- [9] **Neander, W.** *Lexikon deutschbaltischer Theologen seit 1920*. Hannover: Fritz Eberlein, 1988, S. 121.
- [10] Totenliste. *Baltische Post*, 11. Februar 1913, No. 35, S. 4.

- [11] Totenliste. *Rigasche Zeitung*, 13. Februar 1913, No. 37, S. 7.
- [12] **Gottzmann, C. L., Hörner, P.** *Lexikon der deutschsprachigen Literatur des Baltikums und St. Petersburg. Band I.* Berlin, New York: W. de Gruyter, 2007, S. 314.–315.
- [13] Wir brauchen eine Zentralstelle für geistige Zusammenarbeit. *Riga am Sonntag*, 22. September 1929, No. 98, S. 8.
- [14] Studenta Frīdriha Alfrēda Burharda personālieta. LNA LVVA 7427. f., 1. apr., 20070. l.
- [15] **Borbely, K. von (Bearb).** *Deutsch-baltisches Gedenkbuch. Unsere Toten der Jahre 1939–1947.* Darmstadt: Deutsch-Baltische Genealogische Gesellschaft, 1991, S. 65.
- [16] Oto Paula Nauka personālieta. LNA LVVA 5601. f., 1. apr., 4429. l., 1.–10. lp.
- [17] Rīgas Politehnikuma studentu diplomu kopijas. LNA LVVA 7175. f., 1. apr., 1848. l., 169. lp.
- [18] Rīgas Politehnikuma asistenta Frīdriha Nauka personālieta. LNA LVVA 7175. f., 1. apr., 176. l., 1., 2., 14., 15., 27. lp.
- [19] Die Stadt Realschule. *Rigasche Stadtblätter*, 23. September 1882, No. 38, S. 328.
- [20] *Rechenschaftsbericht des I Rigaer Velocipedisten-Vereins pro 1899/1890 und 1900/1901.* Riga, 1902, S. 21.
- [21] Gewerbe Verein. *Rigasche Zeitung*, 29. Dezember 1879, Nr. 303, S. 51.
- [22] Gewerbeverein. *Rigasche Zeitung*, 25. Oktober 1880, No. 249, S. 10.
- [23] Technischer Verein. *Rigasche Industrie-Zeitung*, 1. März, 1888, No. 5, S. 54.
- [24] Technischer Verein. *Beilage zur Düna Zeitung*, 27. November 1893, No. 271, S. 3.
- [25] Notizen. *Rigasche Stadtblätter*, 7. Januar 1894, No. 1, S. 5.
- [26] Locales. *Düna Zeitung*, 2. Dezember 1894, No. 271, S. 5.
- [27] Im technischen Verien. 2. Beilage zur *Rigaschen Rundschau*, 30. September 1895, No. 223, S. 7.
- [28] Technischer Verein. *Rigasche Rundschau*, 7. Oktober 1895, No. 229, S. 6.
- [29] Notizen. *Rigasche Stadtblätter*, 30. November 1895, No. 48, S. 385.
- [30] Notizen *Rigasche Stadtblätter*, 15. Oktober 1898, No. 41, S. 329.
- [31] Notizen. *Rigasche Stadtblätter*, 22. Januar 1898, No 3, S. 24.
- [32] Im Gewerbeverein. *Düna Zeitung*, 15. Dezember 1904, No. 285, S.7.
- [33] Notizen. *Rigasche Stadtblätter*, 31. Dezember 1898, No. 52, S. 417.
- [34] Technischer Verein. *Rigasche Rundschau*, 14. Januar 1899, No. 10, S. 5.
- [35] Technischer Verein. *Rigasche Rundschau*, 13. Januar 1900, No. 9, S. 2.–3.
- [36] Notizen. *Rigasche Stadtblätter*, 11. Dezember 1903, No. 49, S. 400.
- [37] Technischer Verein. *Rigasche Rundschau*, 10. Dezember 1907, No. 266, S. 10.
- [38] Popularisierung des «Triumphzugs Kaiser Maximilians» [online]. <https://artinwords.de/kaiser-maximilian-i-und-die-kunst-der-duererzeit/> [cited: 21.02.2020].
- [39] Technischer Verein. *Düna Zeitung*, 22. März 1908, No. 69, S. 10.

- [40] Schenkungen für den Deutschen Verein. *Beilage zur Rigaschen Zeitung*, 22. Dezember 1908, No. 297, S. 7.
- [41] Technischer Verein. *Rigasche Industrie-Zeitung*, 1. März 1888, No. 5, S. 54.
- [42] Kontrolbiļešu spiestuve E. Nauk. *Audzīnātājs*, 1935. gada 1. novembris, Nr. 11, 66. lpp.
- [43] Ein bemerkenswertes Jubiläum. *Rigasche Rundschau*, 1. März 1928, Nr. 49, S. 3.
- [44] [Inland]. *Düna Zeitung*, 29. Oktober 1892, No. 247, S. 1.
- [45] Technischer Verein. *Rigasche Industrie-Zeitung*, 1. Februar 1893, No. 3, S. 30.
- [46] Oficiera nodaļa. *Rīgas Pilsētas Policijas Avīze*, 1893. gada 18. septembris, Nr. 205, 1. lpp.
- [47] Concessionserteilungen. *Rigasche Rundschau*, 17. Januar 1895, Nr. 13, S. 5.
- [48] Feuerschäden. *Rīgas Pilsētas Policijas Avīze*, 1895. gada 9. maijs, Nr. 101, 1. lp.
- [49] Beilage zur *Rigasche Rundschau*, 4. März 1899, No. 52, S. 5.
- [50] Locales. *Rigasche Rundschau*, 12. November 1905, No. 250, S. 6.
- [51] Locales. *Rigasche Rundschau*, 11. August 1910, No. 182, S. 6.
- [52] Gerda un Jirgena Nauku aizbildniecības lieta. LNA LVVA 1380. f., 3. apr., 10271. l. 22. lp.
- [53] Tiesu sludinājumi. *Valdības Vēstnesis*, 1935. gada 28. decembris, Nr. 294, 4. lpp.
- [54] Par firmu «E. Nauk». LNA LVVA 1536.f., 12. apr., 2428. l., 1., 41., 49., 57. lp.
- [55] Satiksmes pārvalde iegādāsies biļešu spiestuvi. *Rīts*, 1939. gada 7. novembris, Nr. 308., 11. lpp.
- [56] Rīgas ielu dzelzceļa atskaites. LNA LVVA 2940 f., 1. apr., 44. l, 4. lp. o. p.; 11. lp., 11. lp. o. p.; 30. lp.; 47. lp.; 64. lp.; 78. lp.; 83. lp.; 92. lp.; 110. lp.; 124. lp.; 135. lp.; 139. lp.; 153. lp. o.p.; 168. lp. o.p.; 189. lp.; 198. lp.; 202. lp.; 214. lp.; 227. lp.; 237. lp.; 249. lp.; 259. lp.; 273. lp. o. p.; 281. lp.; 287. lp. o.p.; 293. lp.; 303. lp. op.; 326. lp.; 340. lp.; 353. lp.; 366. lp.
- [57] Rīgas notārs Jānis Krūklānds. *Valdības Vēstnesis*, 1939. gada 16. novembris, Nr. 261, 15. lpp.

SOURCES OF ILLUSTRATIONS

Figure 1. Rīgas vēstures un kuģniecības muzejs (turpmāk – VRVM). VRVM 53789[002].

Figure 2. Nauku ģimenes arhīvs.

Figure 3. Emmas Marijas Naukas ārzemju pase. LNA LVVA 3234. f., 32. apr., 48189. l.

Figure 4. **Zigmunde, A. Ernsts Nauks (1819–1875).** *Rīgas Politehnikuma pirmais direktors*. RTU Izdevniecība, Rīga: 2019, 140. lpp.

Figure 5. I. Gudro foto.

Figure 6. Roberta Heinriha Nauka Latvijas Republikas pilsoņa pase. LNA LVVA 2996. f., 13. apr., 1737. l.

Figure 7. Šarlotes Vilhelmīnes Burhardes Latvijas Republikas pilsoņa pase. LNA LVVA 3234. f., 33. apr., 49019. l., 3. lp.

Figure 8. Wir brauchen eine Zentralstelle fürgeistige Zusammenarbeit. *Riga am Sonntag*, 22. September 1929, No. 98, S. 8.

Figure 9. Oto Paula Nauka Latvijas Republikas pilsoņa pase. LNA LVVA 2996. f., 13. apr., 1736. l.

Figure 10. Ilzes Naukas Latvijas Republikas pilsoņa pase. LNA LVVA 3232. f., 32. apr., 48191. l.

Figure 11. Rīgas Politehnikuma studentu diplomu kopijas. LNA LVVA 7175. f., 1. apr., 1848. l., 169., 170. lp.

Figure 12. Rīgas Politehnikuma asistenta Frīdriha Nauka personāllieta. LNA LVVA 7175 f., 1. apr., 176. l., 15. lp.

Figure 13. Rīgas zirgu dzelzceļa sabiedrības kadru uzskaites lapas. 1885.–1887. gads. LNA LVVA 2940. f., 1. apr., 1. l., 1. lp.

Figure 14. Hollerith 1890 Census Tabulator [online]. <http://www.columbia.edu/cu/computinghistory/1890tabulator.html> [cited: 08.02.2020].

Figure 15. Sauggasanlage und Sauggasmotor (Körting, Hannover) [online]. <https://www.deutsche-digitale-bibliothek.de/item/IM42JTJNNQEI4G6OYZZ4A74V6EWTPB6F> [cited: 17.02.2020].

Figure 16. Image [online]. https://www.koenig-bauer.com/fileadmin/_processed_/csm_7026_8033ffa076.jpg [cited: 25.02.2020].

Figure 17. VRVMp 54610-54611.

Figure 18. VRVM 190355.

Figure 19. Rīgas Satiksmes muzeja arhīvs.

Figure 20. Iljas Dimenšteina privātais arhīvs.

Figure 21. Ģ. Eliasa Jelgavas vēstures un mākslas muzejs. JVMM 36567.

Figure 22. Rigasches Adressbuch 1901. Riga, 1901, S. 204.

Figure 23. A. Zigmundes foto.

Figure 24. Tipogrāfijas «E. O. Nauk» reklāma latviešu un krievu valodā. *Latvijas Pašvaldību Darbinieks*, 1932. gada 1. oktobris, Nr. 1, 19. lpp.

Figure 25. «E. Nauk» tipogrāfijas reklāma. *Audzinātājs*, 1935. gada 1. novembris, Nr. 11., 586. lpp.

Figure 26. «E. Nauk» tipogrāfijas adrese. *Latviete*, 1936. gada 1. janvāris, Nr. 1–5.

Figure 27. Par firmu «E. Nauk». LNA LVVA 1536. f., 12. apr., 2428. l., 9. lp.

Figure 28. Biļešu spiestuves Baldones ielā 15 reklāma. *Sporta Pasaule*, 1937. gada 1. februāris, Nr. 350, 4. lpp.

Figure 29. Par firmu «E. Nauk». LNA LVVA 1536. f., 12. apr., 2428. l., 26. lp.

Figure 30. «L. Burchards – E. Nauk» tipogrāfijas reklāma. *Skolu Dzīve*, 1937. gada 1. oktobris, Nr. 2.

Figure 31. Par firmu «E. Nauk». LNA LVVA 1536. 12. apr., 2428. l., 49. lp.



ILZE GUDRO, *Dr. sc. ing.*, is currently Head of the Research Centre for Engineering History of Riga Technical University and assistant professor with the Institute of Design Technologies of RTU. Her main academic interests include the history of Riga Technical University, engineering sciences, interior, furniture and product design, materials science. She is a member of the team organizing the exhibitions of works of bachelor and master students of the Institute of Design Technologies of RTU (e. g. Fashion show «*Kīpsalas Pavasaris*», design product exhibitions «*Kīpsalas Dizaina Kods*», «*Design Isle*», etc.).
Address: 1 *Kronvalda bulvāris*, Room 203, Riga, LV-1010, Latvia
Phone: +371 28897223
E-mail: ilze.gudro@rtu.lv



ALĪDA ZIGMUNDE, *Mg. phil., Dr. paed.*, has been a Specialist at the Museum of Riga Technical University since 1989. From 2007 to 2015, she was a Senior Researcher. She is currently a Professor with the Institute for Humanities and Head of the Department for Historic Research and Scientific Publications of the RTU Research Centre for Engineering History. Her main academic interests include the history of pedagogy in Europe, the history of the institutions of education, and history of engineering sciences and universities.
Address: 1 *Kronvalda bulvāris*, Room 203, Riga, LV-1010, Latvia
Phone: +371 298 696 42
E-mail: alida.zigmunde@rtu.lv

Ilze Gudro, Alīda Zigmunde

Frīdrihs Augusts Nauks (1855–1913), Rīgas Politehnikuma absolvents, kontrolbiļešu drukas aizsācējs Rīgā

Rīgas Politehnikuma (RP) absolvents (1878) Frīdrihs Augusts Nauks (*Friedrich August Nauck*; 1855–1913) bija RP pirmā direktora Ernsta Nauka (*Ernst Nauck*; 1819–1875) dēls, inženieris, sabiedriskā transporta un dažādu ieejas kontrolbiļešu drukas aizsācējs Rīgā. Pētījuma mērķis ir atspoguļot F. A. Nauka tipogrāfijas darbību un kontrolbiļešu drukas pirmsākumus, kā pierādījumu apzinot kontrolbiļetes, kas dažādos arhīvos un muzeju krājumos ir saglabājušas līdz mūsdienām. F. A. Nauka 1888. gadā Rīgā izveidotā tipogrāfija darbojās līdz 1939. gadam. Tipogrāfijas sekmīgai darbībai inženieris izgudroja dažādas ierīces. F. A. Nauks aktīvi darbojās Rīgas Tehniskajā un Rīgas Amatu biedrībā, lasot referātus par dažādiem tematiem, kā arī bija viens no Rīgas zirgu dzelzceļa sabiedrības direktoriem (1885–1889). Pētījumā nozīmīga vieta atvēlēta F. A. Nauka ģimenei un tās pēctečiem līdz mūsdienām.

Atslēgvas vārdi: Rīgas Politehnikums, kontrolbiļešu druka, Nauku dzimtas tipogrāfija, Frīdrihs Augusts Nauks.