

**THE HISTORY OF MATCH PRODUCTION
DEVELOPMENT IN VOLYN.
RIVNE MATCH FACTORY**

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This article presents a comprehensive study of the historical development of match production in the Volyn region, with a particular focus on the Rivne Match Factory. The research traces the evolution of the industry from artisanal to industrial-scale production, highlighting key technological innovations, including the introduction of safety (non-phosphorus) matches. The technological process is examined in detail, encompassing all stages from wood preparation to the application of the ignition compound and packaging of the final product.

Special attention is given to the socio-economic impact of the factory on the local community, particularly the creation of employment opportunities for women and children in Rivne in the early 20th century. Based on archival sources, cartographic materials, and unique photographs taken during Semen An-sky's 1912 ethnographic expedition, the study reconstructs the likely location of the factory and its operational characteristics.

The article analyzes the reasons for the factory's closure in 1922, including economic instability, the establishment of the Polish state match monopoly, and discriminatory policies against Jewish entrepreneurs. A separate section is devoted to the attempt

to revive match production in the Rivne region in 1998, which led to the establishment of a modern factory in the town of Berezne. This study underscores the significance of the match industry as a driver of regional economic and social development and contributes to the preservation of historical memory regarding lesser-known aspects of local industrial heritage.

Keywords: match production, Volyn, Rivne Match Factory, safety matches, socio-economic impact, historical reconstruction.

INTRODUCTION

The production of matches is inextricably linked to the use of white phosphorus—a toxic, unstable, and flammable substance—for making fire. What really revolutionized it, however, was the invention of the so-called safety matches by the Swedish professor Gustav Erik Pasch in 1840. Johan Edvard Lundström, his compatriot, improved on Pasch's idea and patented the matches that contained no white phosphorus. Instead, the non-toxic and non-flammable amorphous (red) phosphorus was added to the striking surface compound. Later, he joined forces with his brother, entrepreneur and industrialist Carl Frans Lundström, to open a safety matches factory in Jönköping, Sweden, between 1844 and 1845¹.

However, it was not only a matter of the technology's evolution. Since 1868, as production costs decreased, the simple manufacturing technique became accessible to workshops and small cooperatives². Small factories thus began popping up across Europe, and artisanal production of safety matches gained substantial momentum as a result of the technology's simplicity and low initial costs.

HISTORICAL CONTEXT

In the Russian Empire, which ruled Volhynia at the time, the rise in domestic red phosphorus production in 1871 led to the growth of the match industry. In addition to covering domestic demand, the ramp-up in domestic production enabled the empire to start exporting red phosphorus in 1885, the output of which reached almost 50 tonnes in 1892³.

The accessibility of raw materials was another growth driver in the match industry. Match factories were often built near woodlands, which was especially beneficial to forest owners, as it provided an opportunity to dispose of unclaimed low-quality timber littering forests and hindering the growth of new plants. In combination with relatively low initial investments, these factors made match production extremely lucrative in a suitable environment.

ESTABLISHMENT OF THE RIVNE MATCH FACTORY

The first match factory in Volhynia was established in Pulyny, a city near Zhytomyr, in 1883 by the urban commoner Yankel Morgulis⁴. The factory manufactured both phos-

1. "The Lundström Brothers — The safety match," Tekniska museet, accessed November 5, 2025, <https://www.tekniskamuseet.se/en/learn-more/swedish-inventors/lundstrom-brothers-safety-match>.
2. "How Common Were Safety Matches in the 1850s–60s?" Historum: History Forums, accessed November 15, 2025, <https://historum.com/t/how-common-were-safety-matches-in-1850s-60s.171570/>.
3. И. Клопад, *Спичечное производство в современном его развитии* (Москва: Типо-Литография И. Е. Ермакова, 1896), 4.
4. Учасники проєктів Вікімедія, «Пулини — Вікіпедія», Вікіпедія, 20 січня 2005, <https://uk.wikipedia.org/wiki/Pulyny>.

phorus-containing and safety matches, producing 9000 rubles' worth of them annually. For unknown reasons, however, the factory that employed 35 people⁵ ceased operation by 1895.

In 1895, Moses Goldberg founded a match works in the town of Tunyky, now part of Kremenets, Ternopil Oblast. In 1896, its annual output reached 116,000 safety matches⁶. Almost simultaneously with Goldberg, urban commoner Aaron Margulis launched match production in Kostopil. Over the course of 1896, his works produced 635,000 safety matches⁷. Until 1897, it employed 50 workers and used a steam machine⁸. However, the factory ceased operations by 1899 for unknown reasons. Presumably, its equipment was dismantled and moved to Rivne. After the Kostopil works' closure in 1899, the Kremenets factory remained the only match producer in Volhynia up until 1905⁹.

In 1906 (or 1902, according to other sources¹⁰), urban commoner Aaron Margulis and merchant Itzka Zup founded their match factory in Bila, a suburb of Rivne¹¹. From 1909 onward, the factory became known as "Volyn." It had 70 workers, who made up to 1 million matches per year. The factory flourished, doubling its output within just one year¹². In 1911, it already had 80 workers¹³. In 1913, the enterprise was renamed Trading House of the Descendants of Margulis and Zup. When World War I broke out in 1914, its production decreased somewhat, and the workforce shrank to 70 people.

As for the factory's concrete location, it is known to have been standing in the area of the present-day Bila Street, near the railway station. By analyzing available sources, e.g., maps and location plans, we pinpointed its most likely location (Figs. 1, 2).

Analysis of the *Sketches of Traversing Triangulation Points and Control Survey Points in the City of Rivne* revealed, in the description of control survey point No. 203, a mention of Building No. 7, owned by Margulis (Fig. 3), one of the match factory's two co-owners, which gives reasons to assume the site was the Rivne Match Factory's location. An additional analysis of a city plan of Rivne dating back to the 1930s enabled us to pinpoint the location of the above-mentioned Margulis building (Fig. 4).

5. П. Орлов и С. Будагов, *Указатель фабрик и заводов Европейской России: Материалы для фабрично-заводской статистики*, составлено по официальным сведениям Департамента Торговли и Мануфактур, изд. 3-е., исправленное и значительно дополненное (Санкт-Петербург: Типография В. Киришаума, 1894).

6. *Фабрично-заводская промышленность России. Перечень фабрик и заводов*, т. 63, VI (Санкт-Петербург: Типография И. А. Ефрона, 1897), 37.

7. А. Блау, ред., *Торгово-промышленная Россия: Справ. кн. для купцов и фабрикантов* (Санкт-Петербург: Типография А. С. Суворина, 1899), 7.

8. *Ibid.*, 17.

9. Орлов и Будагов, *Указатель фабрик и заводов*, 5; А. Погожев, ред., *Адресная книга фабрично-заводской и ремесленной промышленности всей России*, изд. 2-е (Санкт-Петербург: С. С. Кальмансон, 1907), 23.

10. *Фабрики и заводы всей России: Сведения о 31, 523 фабриках и заводах* (Киев: Кн-во т-ва Л. М. Фиш, 1913), 19.

11. Л. Езиоранский, *Фабрично-заводские предприятия Российской империи* (Санкт-Петербург: Издание Торгового Дома А. Срока и К°, Т-во «Справочник», Типография Н. П. Зандмана под фирмой В. Безобразов и К°, 1909), 5.

12. *Список фабрик и заводов России 1910 г.: по официальным данным фабричного, податного и горного надзора*, составлено редакцией «Торгово-промышленной газеты» и «Вестника финансов», 2-е изд., (Москва [и другие]: издано Торговым домом Л. и Э. Метуль и К°, [1910]), 37.

13. *Фабрики и заводы всей России*, 421.

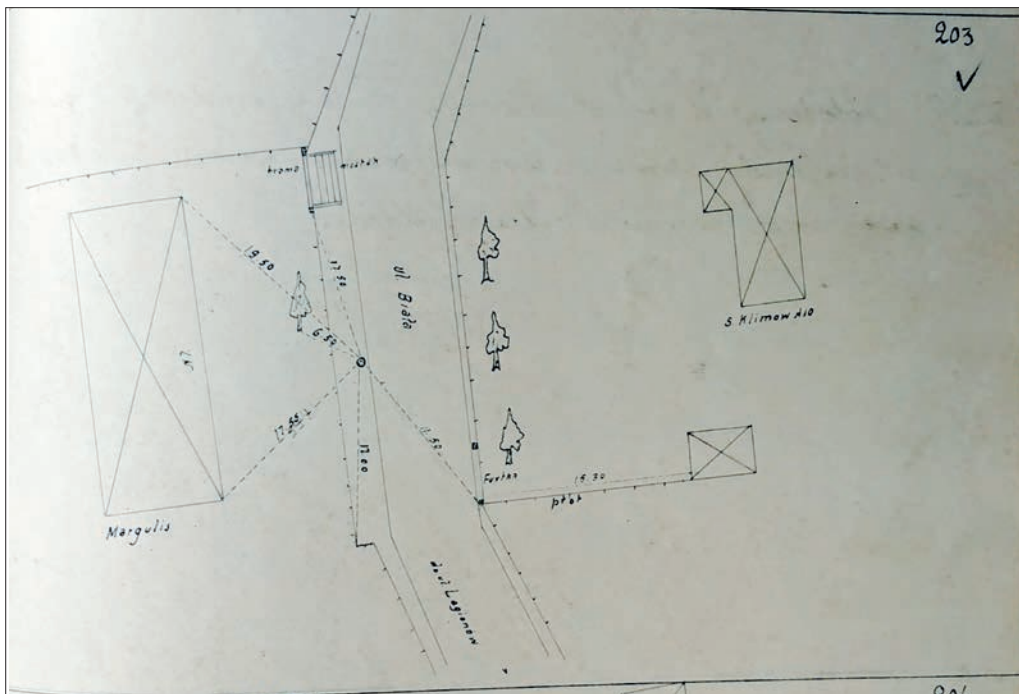


Fig. 3. The layout sketch for the control survey point No. 203, located on Bila Street, as seen in the Sketches of Traversing Triangulation Points and Control Survey Points in the City of Rivne



Fig. 4. A fragment of the Rivne city plan dating back to the 1930s, with the Rivne Match Factory location marked on it

PROCESS

The matches—and safety matches especially—were usually made from aspen, with other options including linden, poplar, willow, and, sometimes, pine and spruce. Importantly, brittleness/brashness of the wood, as well as any twisted grain or knots, could negatively affect the quality of the finished product.

To make splints—this is what matchsticks are called¹⁴—naturally dried wood was used, which was greatly prized. The logs, about 1 meter long, were split into four, debarked, and mounted on a bench. Then the wood was cut with a specialized tool resembling a carpenter's plane into long sticks of varying thicknesses. After each pass, the wood was leveled with a carpenter's plane to remove surface irregularities. The process continued step by step, layer by layer, until the wood was completely used up.

There were two main techniques for making splints. For longitudinal shaving, an earlier method, specialized machines were used (Fig. 5). A piece of wood was mounted at the frame's edge and then cut with a tool having multiple sharpened tubes, which, in a linear motion, cut the wood into splints. The tool was driven by a connecting rod and an eccentric, attached to the shaft, on which pulleys and a flywheel were mounted. These machines had a double-sided design, with a tool mounted on each side of the driving shaft. Some models were equipped with an air blower for removing debris or broken splints.

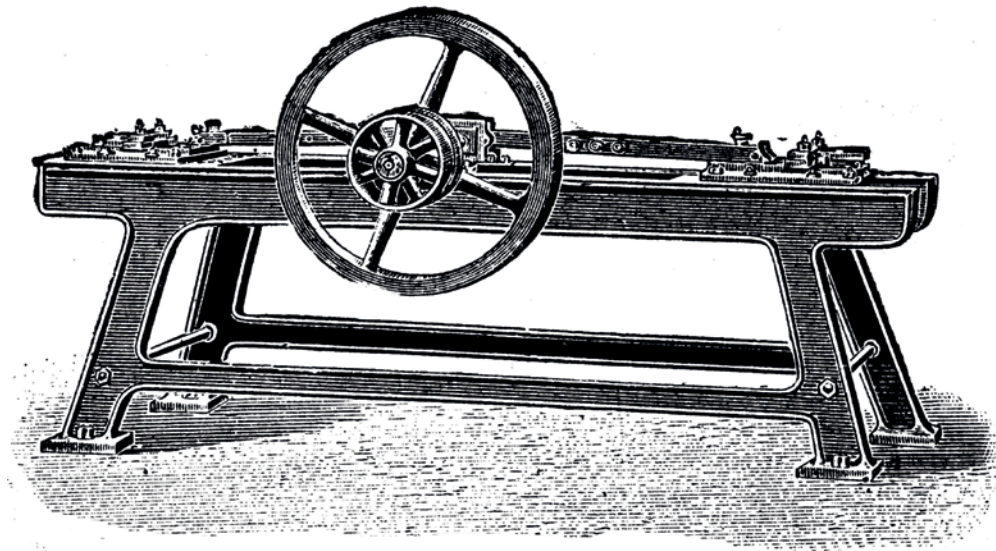


Fig. 5. A splint-making machine as seen in the *Brockhaus and Efron Encyclopaedic Dictionary*

14. Н. Осипов, «Спички», в *Энциклопедический словарь*, под ред. Ф. Брокгауза и И. Эфрона (Санкт-Петербург: Семеновская Типолитография И. А. Эфрона, 1895), 31, 265–280.

Then bundles of about 650 splints were formed and stored in a dry place to preserve their quality. At the next stage, the splints were cut into 45–50 mm pieces, corresponding to the length of a match. For that, a dedicated shearing machine was used (Fig. 6). A bundle of splints was placed in gutter **A** and then moved forward until it reached the stopper plate **P**, which was lowered before the gutter with a pedal. Then the bundle was cut to length with shears **B**, driven by the lever **m**. The plate **P** could be shifted to adjust the distance to the shears **B** and precisely regulate the length of matches.

This excessively wasteful production process was used primarily in the early days of the match industry, before the introduction of more efficient methods.

As match factories ramped up production, they updated the splint-cutting process, improving efficiency by reducing waste and optimizing the use of raw materials.

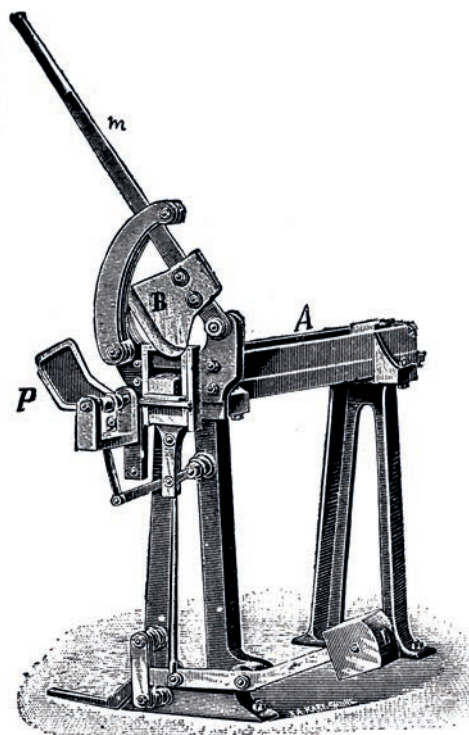
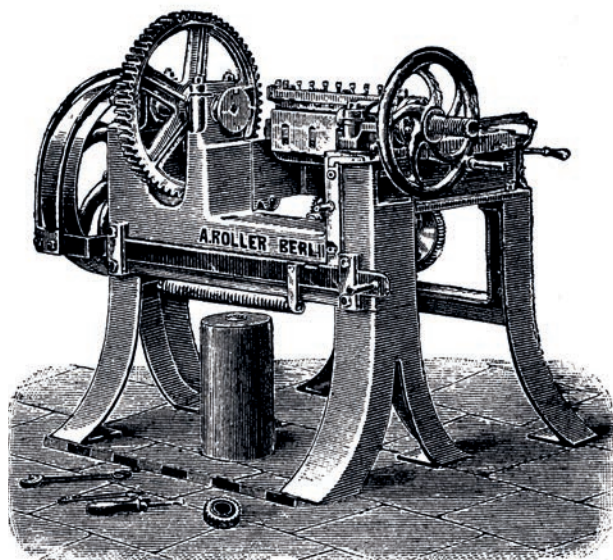


Fig. 6. Machine for cutting splints to length as seen in the Brockhaus and Efron Encyclopaedic Dictionary



First, timber was cut into logs about 40 cm in length, which were steamed in the vessels with boiling water to soften the wood. The logs were then mounted on a specialized machine (Fig. 7) that spun them lengthwise in front of a wide blade that gradually sheared the veneer into a continuous, thin strip. Feed speed could be adjusted to achieve the required ve-

Fig. 7. Veneer machine (40 cm) as seen in the Brockhaus and Efron Encyclopaedic Dictionary

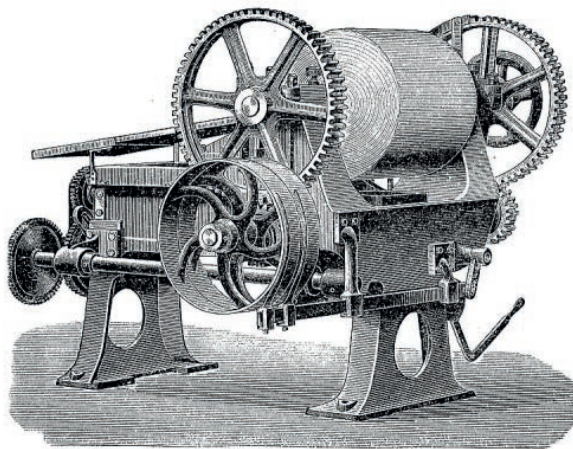


Fig. 8. Veneer machine (60 cm) as seen in the *Brockhaus and Efron Encyclopaedic Dictionary*

neer thickness. Positioned behind the horizontal knife were the so-called splitters—multiple vertical knives that cut veneer into strips as narrow as the match.

That technique was more efficient than the previous ones, as it substantially reduced waste and enabled production of higher-quality matches.

At the time, there were also more powerful machines that could handle 60-cm and longer logs (Fig. 8). They boosted labor productivity, bringing daily output to 10 million matches¹⁵.

Finally, the veneer strips were fed into the cutting machine (Fig. 9), where a vertically moving knife cut them. The strips were placed in the machine's gutter in two stacks of 50–60, and pressed down by corrugated rollers or straps at the top and bottom. Every time the knife was lowered, the strip bunch automatically moved forward by the thickness of a match, allowing for precise cutting of splints.

The resulting splints were placed in the 1×0.7 m open-top wooden boxes, which had bottoms made from ~2 mm-thick wire screen mesh for proper airflow. The splints were arranged so that air could freely circulate between them, allowing each to dry properly. The drying period lasted 3 to 6 hours, depending on conditions and the technology used.

Drying was necessary to reduce the moisture content of freshly cut splints from 50–55% to a level acceptable for use in match production. Smaller works dried their splints naturally in open air or in well-ventilated rooms. In mass production, heated air was used to preserve the form and shape of the future matches.

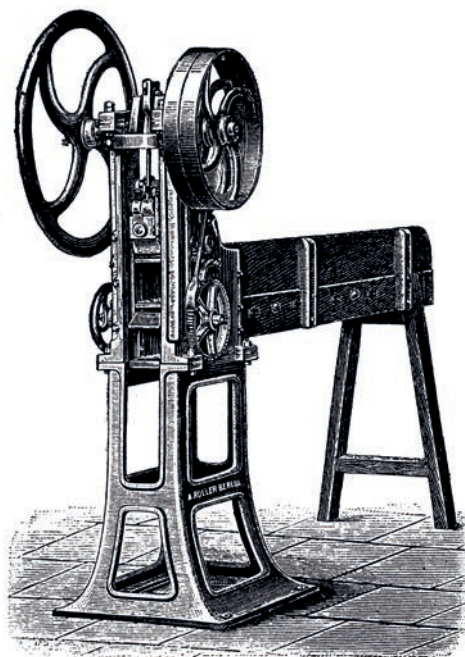


Fig. 9. Strip cutter as seen in the *Brockhaus and Efron Encyclopaedic Dictionary*

15. Осипов, «Спички».

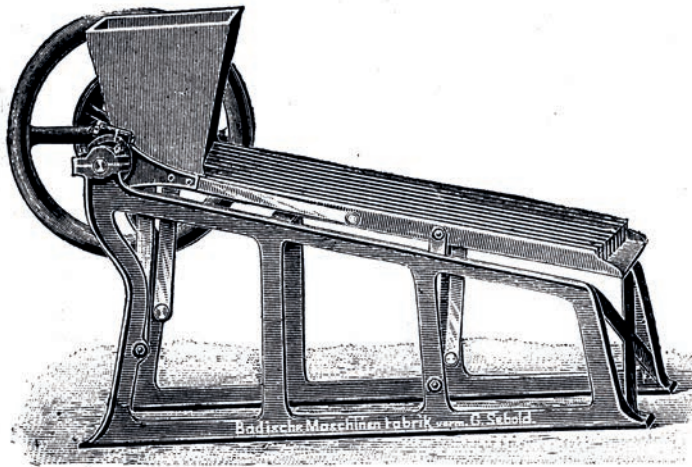


Fig. 10. A splint-cleaning machine as seen in the Brockhaus and Efron Encyclopaedic Dictionary

The dried splints were then put into the cleaning machine (Fig. 10) to remove debris. Debris fell through the holes in the platform, while the intact splints eventually made their way to the other end of the machine. Hole sizing helped reliably separate debris from the high-quality material for the next manufacturing stage.

Before applying the igniting compound, the splints were aligned and arranged in parallel rows. For that, they were placed in a machine similar to the cleaning machine (Fig. 11).

A box divided into compartments was put on the platform, constantly shaken by an eccentric drive. Lengthwise, every compartment corresponded to the length of a match. As the box was shaken, the splints fell into the compartments between the dividers, and debris fell out through the bottom holes.

At the final stage, before the application of the igniting compound, the splints were inserted into dipping frames. At their simplest, these frames consisted of a wooden board **a** (20 mm thick, 30 mm wide) with two vertical iron bars **b**. Installed onto them

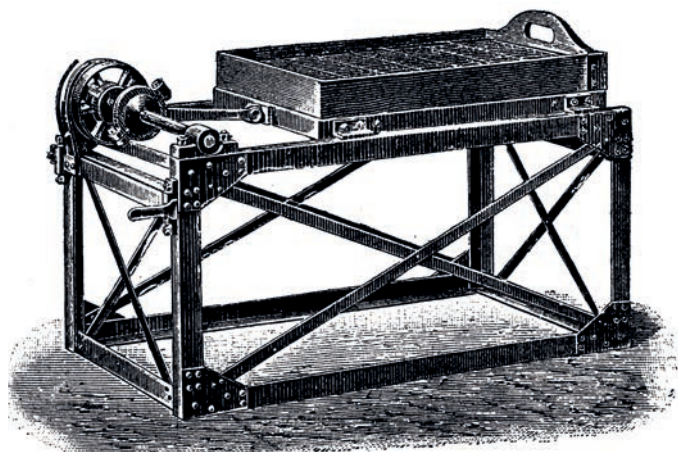


Fig. 11. A splint-aligning machine as seen in the Brockhaus and Efron Encyclopaedic Dictionary

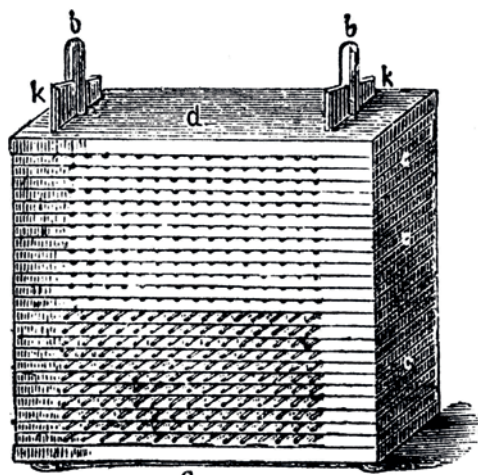


Fig. 12. Dipping frames as seen in the Brockhaus and Efron Encyclopaedic Dictionary

with wedges **k**. Before the final locking, the frame was adjusted by tapping it flat against a level surface, so that all the splints protruded equally. As a rule, each frame held from 2200 to 2500 future matches. For larger production volumes, the frames were filled not manually but with specialized machines (Fig. 13, 14). Those machines could be driven manually or by a transmission. Over a 10-hour workday, a machine like that could fill about 600 frames.

Applying the igniting compound was the key part of match production. For that, a preheating plate (Fig. 15) was used, which was the most widespread piece of equipment at the time. First, a hot gas from the burning fuel heated a large iron pan with fine quartz sand to preheat the splints before applying the compound.

After that, the gas heated the dipping pan (Fig. 16), filled with the molten igniting compound. The dipping pan had two parts, a flat and a depressed one. The former was larger than the frame and served for dipping splints into the igniting compound. The latter, in fact, served as a reservoir to keep the level of the compound constant in the former.

were other boards **d** of the same width but somewhat thinner (about 10 mm thick) (Fig. 12).

Each of these boards had a row of parallel impressions, running perpendicular to its length. Spaced 2–3 mm apart, they were just deep enough for about a third of the splint thickness to protrude above it. As the frames were filled manually, workers holding splints ran their hands along the board **d** in a practiced move, placing a splint in every impression. After that, the board was slipped over the bars **b**, and then more were put on top, gradually building the frame.

To secure all splints, the assembled frame was covered with a thick board **d** and locked

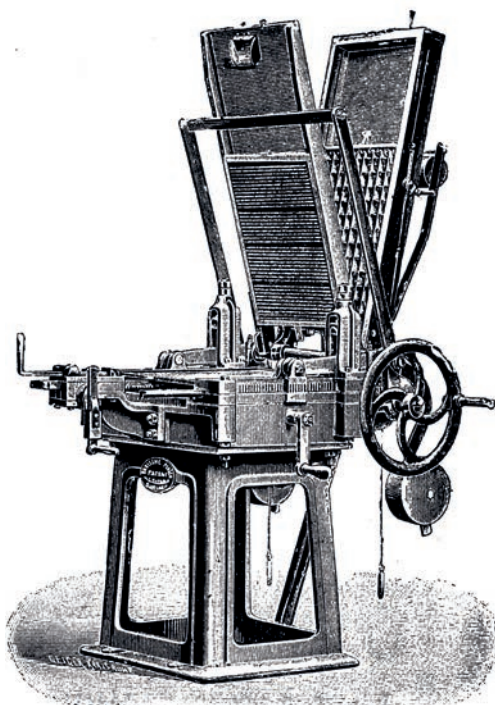


Fig. 13. A frame-filling machine as seen in the Brockhaus and Efron Encyclopaedic Dictionary

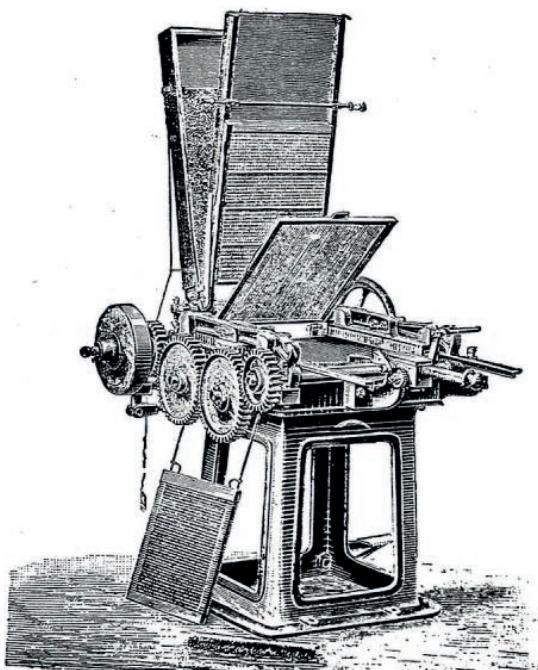


Fig. 14. A frame-filling machine as seen in the Brockhaus and Efron Encyclopaedic Dictionary

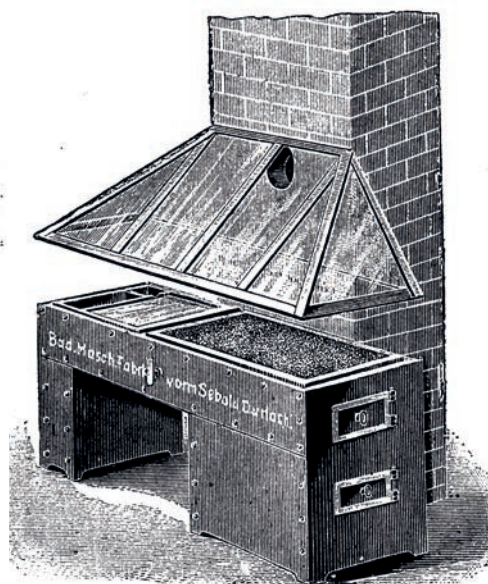


Fig. 15. A preheating stove as seen in the Brockhaus and Efron Encyclopaedic Dictionary

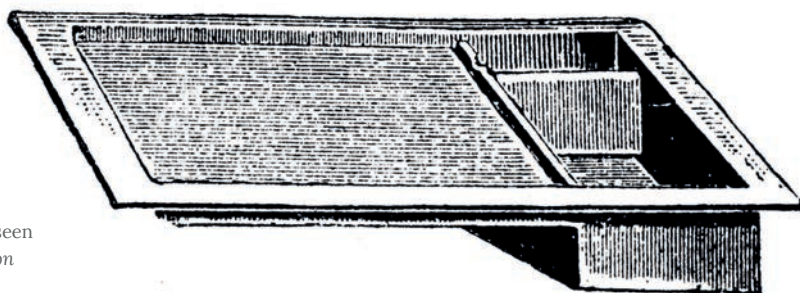


Fig. 16. A dipping pan as seen in the Brockhaus and Efron Encyclopaedic Dictionary

After the dipping, the frames were moved to the drying chambers. Drying was a crucial part of the process, requiring strict adherence to safety measures. During match drying, noxious fumes formed, and a large quantity of products in heated premises posed a serious fire hazard. For these reasons, drying chambers were set up in domed stone buildings, which enhanced fire safety. Heating devices were installed to heat the air to 25–30 °C evenly. To avoid inadvertent ignition, the chamber floor was covered with a 3–4-cm layer of sand, which could be used to extinguish any spontaneous ignition.

Another important part of the production process was the manufacturing of wooden matchboxes. The veneer for boxes was made on the same machine as for the splints, but the knife was adjusted for a thinner cut. Then it was cut into parts for the box interior and exterior. The boxes were covered with paper, and a compound containing red phosphorus was applied to the exterior sides to form striking surfaces. Then the boxes were filled with matches, wrapped up, and packaged.

At smaller factories, it was done manually, often by women. Larger enterprises relied on machinery for automated bundling, which substantially increased production speed. Usually, matches were packed in paper packs of 10, and 100 packs were shipped in wooden boxes for sale.

PRODUCTION AT THE RIVNE MATCH FACTORY

In 1909, S. An-sky (real name—Shloym Rappoport) initiated a major ethnographic expedition to the Pale of Settlement. First, he approached the leadership of the Jewish Historical-Ethnographic Society, founded in St. Petersburg in 1908, with the proposal. By 1912, S. An-sky received approval in principle to proceed with the expedition, with Baron Vladimir Gintsburg, son of the famous Jewish philanthropist Horace Gintsburg, donating 10,000 rubles.

The ethnographic expedition began on July 1, 1912. It included the writer and ethnographer S. An-sky, musicologist and composer Joel Engel, and photographer and artist Solomon Yudovin. On the first trip, they traveled across Volhynia, starting in Ruzhin and finishing in Lutsk. It was then that seven photos of the Rivne Match Factory were taken¹⁶. Some of the unique photos by Solomon Yudovin reveal valuable information about the organization and specifics of the production process¹⁷.

Timber was delivered to the factory as a raw material for match production. It was cut into logs in the factory yard and then hauled into the shop for further processing, as shown in the photograph (Fig. 17).

16. Учасники проєктів Вікімедія. «Ан-ський Семен Васильович», Вікіпедія, 10 травня 2005, https://uk.wikipedia.org/wiki/Ан-ський_Семен_Якимович.

17. «Евреи на фотографиях экспедиции Ан-ского», My shtetl, дата звернення 12 вересня 2025, https://myshtetl.org/articles/jews_volyn.html.



Fig. 17. The Rivne Match Factory grounds. Photo by Solomon Yudovin

The logs were probably cut into 40-cm lengths by hand or with circular saws across the grain. After that, they were steamed, and then, probably, were taken to the veneer machine, similar to the one shown in the Fig. 7. The veneer then went to the strip cutting machine, like the one shown in the Fig. 9. A running machine of that kind is seen in the photograph (Fig. 18). Gathered into a large box, the splints went to drying and debris removal.

Before dipping, splints were put into dipping frames. The Rivne Match Factory had specialized machinery for that (Figs. 19, 20).

The filled frames were dipped into the igniting compound in the dipping pan (Fig. 21). The frames were then dried in the drying chamber, after which the finished matches were removed (Fig. 22).

Meanwhile, the internal and external parts of the match box were made (Fig. 23). The wrappers used as box packaging at the Rivne Match Factory over the years are shown below (Figs. 24, 25)

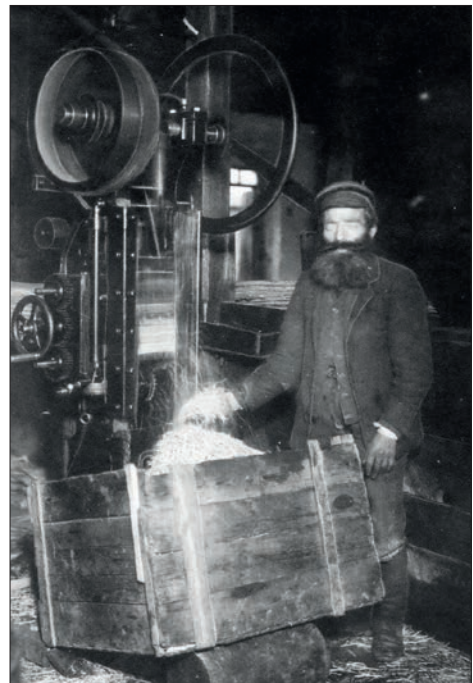


Fig. 18. A strip-cutting machine at the Rivne Match Factory. Photo by Solomon Yudovin



Fig. 19. A frame-filling machine at the Rivne Match Factory. Photo by Solomon Yudovin



Fig. 20. A frame-filling machine at the Museum of the Bohemian Forest



Fig. 21. A dipping pan at the Rivne Match Factory. Photo by Solomon Yudovin



Fig. 22. Dipping frames at the Rivne Match Factory. Photos by Solomon Yudovin



Fig. 23. Production of matchbox blanks at the Rivne Match Factory

SOCIAL AND CULTURAL IMPACT

By 1912, the Rivne Match Factory employed an average of 80 workers. Since most production operations were not physically straining, women and children accounted for a substantial part of the workforce. Literature of the time described the realities of match production as follows: "... at the factory that makes matches from pre-made splints, almost nine out of ten of workers can be children, women, elderly, cripples and infirm, which one may hire for a modes wage even in the summer season..."¹⁸ Corroborating this is the 1912 photo by Solomon Yudovin (Fig. 26), in which there are 51 workers, including 11 men, as well as 40 women and children.

Such a simple production in a small city like Rivne, which had a population of ~27,000 in 1912, definitely had a positive impact. It provided workplaces for women and children, becoming another source of income for family budgets.

THE FACTORY'S CLOSURE

In 1922, the Rivne Match Factory ceased production and closed. The official reasons for that are unknown, but it was probably due to economic and ethnic factors.

18. Клопад, *Спичечное производство*.



Figs. 24–25. Wrappers for matchboxes (1909–1921) produced at the Rivne Match Factory

Volhynia became part of the Polish Republic after the signing of the Treaty of Riga in 1921. The financial state of the Polish economy at the time could have a substantial impact on the factory's operations, as inflation there reached 3600% in 1923. To stabilize the situation, Poland, one of the world's largest producers of matches, imposed a state monopoly on match manufacturing—one of the eight economic monopolies at the time—to regulate match output and sales, as well as to secure revenue for the state.

Established in 1925, the monopoly encompassed all match factories in the country¹⁹. The Polish government immediately sold it to Ivar Kreuger, a Swedish-American financier, for 20 years in exchange for a 6-million “match loan.” Having gained control over the market, Kreuger hiked match prices to recoup his expenses as quickly as possible, and eventually resold the right to the monopoly to the Kreuger Concern²⁰. The monopoly drove small match producers out of the market, forcing them to close up or transition to other kinds of production. Besides, after Poland regained independence in 1918, economic pressure on its Jew population increased, which could affect their entrepreneurial activity, too²¹. Jewish entrepreneurs had difficulty obtaining licenses, accessing loans, and overall were discriminated against, which created adverse business conditions²². Jewish industrial elites in Drohobych and Boryslav also fell victim to this kind of persecution²³.



Fig. 26. Workers at the Rivne Match Factory

19. A. Willma, “Zapałki. Jak znika jeden z najważniejszych wynalazków ludzkości,” *Gazeta Pomorska*, February 10, 2025, <https://pomorska.pl/zapalki-jak-znika-jeden-z-najwazniejszych-wynalazkow-ludzkosci/ar/c1p2-27205513>.

20. M. Urban, “Historia Polski z perspektywy pudełka zapałek,” *Marka*, accessed October 16, 2025, <https://marka.edu.pl/2023/06/28/historia-polski-z-perspektywy-pudelka-zapalek/>; М. Водзінські, «Як розповідати про єврейську історію у Польщі? Від єврейських колекцій до Музею історії польських євреїв», *Lvivcenter*, 13 липня 2017, <https://www.lvivcenter.org/discussions/how-to-tell-story/>.

21. Учасники проєктів Вікімедіа, «Історія євреїв у Польщі», Вікіпедія, дата звернення 10 травня 2025, https://uk.wikipedia.org/wiki/Історія_євреїв_у_Польщі.

22. В. Москалець, «Єврейські індустріальні еліти Дрогобича та Борислава», *Lvivcenter*, 28 травня 2021, <https://www.lvivcenter.org/urban-seminar/jewish-industrial-elites/>.

23. Москалець, «Єврейські індустріальні еліти».

LEGACY AND MEMORY

At the regional level, there is hardly any information about the Volyn factory that operated in Rivne in 1909–1922. Its precise location is unknown, and no toponym connected with the facility has survived to this date.

However, the history of match production in the Rivne Oblast gained an unexpected continuation in the late 1990s. After the USSR collapsed, there was a pervasive need for this kind of goods. Therefore, a decision was made in 1998 to establish the Rivne Match Factory at the Berezne facility, formerly affiliated with Soviet enterprise Gazotron²⁴.

Modern factory equipment was purchased from Swedish Match, a major Swedish producer, for DEM 17 million, allocated by the Ukrainian government²⁵. Swedish Match is one of the world's leading producers of matches. The new Rivne factory made high-quality safety matches and successfully competed with Belarusian and Russian producers. Raw materials came primarily from Ukrainian enterprises: aspen was supplied by Rivnelis, cardboard—by the Obukhiv Cardboard and Paper Mill, paraffin wax—by the Drohobych Oil Refinery²⁶.

In 2011, the factory was declared bankrupt amid financial problems, unable to pay for leased equipment. However, as early as November 2007, the impounded equipment was already leased to the Ukrainian Match Factory. This private enterprise now handles all aspects of the production and sale of matches. Meanwhile, its state-owned partner supplies raw materials, transportation services, and packaging. Around 90% of the state-owned company's staff transitioned to the private firm.

CONCLUSION

The production of matches in Volhynia began at the end of the 19th century, driven by technological advances and the availability of raw materials. The first match factories were founded by local entrepreneurs, which boosted the region's economic growth. Match production included multiple stages, from wood preparation to the application of the igniting compound. Match works relied on a range of equipment and tools to ensure efficient manufacturing. Also, they created workplaces for locals, including women and children, which had a positive impact on the region's economy and provided an additional source of income for families. The closure of the factories was due to economic factors and national policy at the time, including the state monopoly on match manufacturing and discrimination against Jewish entrepreneurs. The 1990s saw a revival of match production in the Rivne Oblast. However, the new factory went bankrupt in 2011 due to financial problems.

24. Учасники проєктів Вікімедіа. «Українська сірникова фабрика», Вікіпедія, дата звернення 10 травня 2025, https://uk.wikipedia.org/wiki/Українська_сірникова_фабрика.

25. «Історія Рівненської сірникової фабрики... у коробках (+фото)», Чарівне, 17 вересня 2013, <https://charivne.info/news/-istoriya-rivnensko-sirnikovo-fabriki-u-korobkakh-foto>.

26. «Історія Рівненської сірникової фабрики... у коробках (+фото)», Чарівне, 17 вересня 2013, <https://charivne.info/news/-istoriya-rivnensko-sirnikovo-fabriki-u-korobkakh-foto>.

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