

Letter to the Editor

THE IRONWORKS IN THE HRON RIVER VALLEY AND THE COBURGS

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Beginning of ironworks in the Hron river valley

In the Hron river valley, the conditions for the beginning of mining and metallurgy have always been very good. There were many deposits of ore, many forests and a number of rivers which have been serving as a source of water energy. In Slovak Ore Mountain (Slovenské rudohorie) the first one was in function as soon as 1440's. Development of iron metallurgy was also accelerated by Turkish hastilies. The map of in the Hron river valley is presented in the **Fig. 1**.



Fig. 1 Map of the iron Works in the Hron river valley [1]

Hronec and Podbrezová also belong to this region although they are not included in the map.

Ironworks in Hronec

In Hronec valley which is at the influx of the Čierny Hron river, three vassals of Zvolen dominion have been given by permission of iron ore mining and construction of hamor. In 1580

both enterprises were taken over by the Banská Bystrica Chamber [2] and in 1603 all the mines, ironworks and hamors were joined to Austrian Chamber [3]. This iron plant which consisted of four furnaces and four hamors in the 17th century produced 110 t of iron per year on average.

The first blast furnace was launched in 1740 and it was led by J.M. Fritz who had studied blast furnace of the place in Moravian Neberstein. The products of Hronec ironworks were munition and fire units. Here the components of Joseph Charles Hell water column machines were cast. From 1780 Austrian Silesia was supplied by iron from Hronec, two storehouses were in Opava and Ostrava. From 1786 common exchequer directory of Hungarian ironworks was in function. Near Hronec, there were hamors in Piesok, Lopej, Vajsková, Jasenné, Bystrá and Chvatimech, too. In 1788 the second blast furnace started working, subsequently causing the production of raw iron increase to 620 ton.

The first two cast bridges were produced here in 1810 and 1813. The first is exhibited as an industrial heritage in Hronec (**Fig. 2**). In the 19th century, Hronec was the central point of Hungarian artistic casts (small plastics, cups).

In 1814, the first sheet rolling mill in Hungary started here [2]. In 1833 wire drawing work was built up, also being the first of its kind in Hungary [5].



Fig. 2 Segment of the first cast bridge from 1810 currently exhibited in Hronec

In Chvatimech, the first finery hearth worked as soon as 1747. In 1833 the chafery was joined to Cash ironworks of Hronec as well as Charles plant where three blast furnaces and hamors driven by water wheel drive were in function. In 1833 it was joined to exchequer ironworks of Hronec together with Charles plant where three blast furnaces and hamors driven by water wheel drive were in function. In 1839 the first refining stirring puddling furnace in Hungary worked there. The production there stopped in 1950.

In 1842 in Osrbliie and 5 years later in Piesok yet bigger one bar rolling mill was constructed. In Piesok in 1867 the hamor was in function, bars and nails were produced there [5]. Michalová, Tisovec, Ľubietová, Moštenica, B. Bystrica, Kostiviarska also belonged to Hronec exchequer ironworks complex.

Bujakovo ironworks or more precisely Tri Vody was in function near Osrbliie. Raw wood was also used as a reduction reagent and a rolling mill worked there. The plant was in function until 1980's, but because of fire in 1882 the working was stopped. Furnace in Tri Vody was reconstructed, thus these days information board presents the description of the furnace and its

history. In Hronec in 1861 – 63 one new blast furnace was constructed, its yearly production reached as many as 4 000 t.

Because nearly ironwork ore deposit was used to full capacity and for economic crisis, the production of the blast furnace was stopped. The iron foundry was in function, it remained in existence; here they produced machines and sanitary casts, pipes, about 2700 t/year. Smithy and sawmill plant could also be found here. In 1884 kitchenware and enamel work was established, kitchenware made by pressing was produced, too. In 1893, 1083 t of enamel ware and 242 t of other ware was produced by casting [5]. In 1901 the foundry and kitchenware with enamel work was sold to Bartelmus society and it was the end of Hronec ironwork [2].

Podbrezová

In the 19th century, the railway construction was accelerated and therefore in Hungary the necessity of rail production increased. On east of Lopej, on the right bank of river Hron, in Podbežová (in 1837 on duke Lobkowitz's proposal) one frishery furnace and rail rolling mill construction were put to work in 1853. The wood from the nearby forests was floated and it was a good energetic source. The railway rails, bars, profile steel, steel and also forging work were rolled here. With great investment between years 1880-85, the production of new products like tubes started. This plant became the leader ironworks in Hungary.

Steelwork Železiarne Podbrezová – ŽELPO which produce tubes of excellent quality is one of the companies, which is owned by the only one Slovak owner. It is the credit of its general director Vladimír Soták and his co-workers. At the beginning of 2004 it was one of the oldest metallurgical plants in Central Europe in which more than 4000 men worked, its annual production reaching over 200 000 t. Products are known in many countries around the world including Egypt, Finland, France, Holland, and Japan.

Ironworks of Coburgs

Pohorelá

There have been written evidence about hamors in the upper part of the Hron river since the 16th century. One blast furnace and two hamors were established in Pohorelá in 1783. In 1792 Martin Sturman with six partners and count Francis Koháry founded a joint – stock company and constructed a charcoal blast furnace and two frishery hamors in Červená Skala. Six years later, Koháry bought the bankrupt enterprise and in 1821 a new blast furnace was built in Pohorelá. Francis Koháry died in 1826. Because of this, the family branch got disrupted and the property was passed to Marie Antony Gabrielle Koháry, who married the German duke Ferdinand Saxony-Coburg-Gotha. From this time, the great development of ironworks began.

Count ironwork was extended in the following decades on the banks of Hnilec, Hornád, and Slaná rivers and it became one of best enterprises. In Švábolka (today Valkovňa) in 1834, seven mill lines were built. The second, older rolling mill driven by water wheel in Švábolka plant had previously been the property of count Colorado Mitrovsky. After them Francis Koháry bought it and after Koháry's death in 1826 it was bought by duke Ferdinand Coburg [1]. With the help of Charles Heyssel, this plant became the most modern rolling mill in the whole country. Plates and bars and railway rails were rolled in Zlatno. Five years after the death of Ferdinand Coburg, his son August continued the development of ironworks from 1851. This settlement was renamed to Augustin metallurgical plant, later its official name became Pohorelská Maša. There was the centre of duke's mines and ironworks together with the castle. In 1853, a new rolling mill was

put into operation in Low Švábolka [4]. The frishery hamors were changed to Comté-fire hamors which were more economic in all branches.

In 1871 Augustin Coburg constructed a charcoal blast furnace in Sirk-Červeňany. It stood on a column, in still stands today and its profile is the logo of the Slovak Iron Route association. He rented two blast furnaces in Dobšiná and Stratená.

Pohorelá was the fundamental enterprise of Coburg ironworks. In 1892 a Siemens-Martin steelworks started to be built, which consisted of 4 ton furnace and an 8 ton furnace. It was an important technical progress of Coburg ironworks complex. During this time the majority of refining hamors were reconstructed.

In 1869 all Coburg ironworks had total annual production of about 10 000 t of iron and it was the second biggest in Hungary. There were 4 ironworks, at least 2 out of ten collaborated with them. In 1879, 537 workers worked there and production achieved 315 324 goldens. In years 1880 – 1881 production of Coburg ironworks decreased to 9 000 t on the fifth place and their share on the total country production was 8.5 % [10].

At the end of the 19th century the ironworks of nobles were destroyed, thus the situation became difficult. Before World War 1, the operation of Pohorelá ironworks stopped in 1933. Its founder Ferdinand-Sachsen-Coburg-Gotha (178 – 1851) at that time also acquired name Koháry, so the Koháry castle in St. Anton near Banská Štiavnica was also of his family. Three descendants of Ferdinand Coburg were monarchs of Bulgaria. His grandson, who was also the holder of name Ferdinand (1861 – 1948), was elected Bulgarian monarch by the Bulgarian National Assembly. He spoke seven languages including his mother tongue, too. After total independence of Bulgaria was proclaimed and from 5. October 1908 he became czar with the name of Ferdinand I. Upon seeing Bulgaria suffering the defeat in World War 1, on 3 October 1918 he renounced from the throne for benefit of his son Boris (1894 – 1943). He finally left his home-land and he lived on his estate until his death [7].

The grandson of Pohorelá ironworks founder Simeon Coburg visited Pohorelá in June 2014.

He led negotiations with representative of Slovak Iron Route Association about his activities in Central Europe and about the chance of visiting the stations of Iron Route in Slovakia. Such activities and visits would enable organizing “Coburg day” similar to “Andrássy day” in Rožňava, or “Fazola day” in Miskolc to commemorate the history of former ironworks of Coburgs.

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