

Nobel Prize roots in Russia

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Abstract. The scientist who does not dream of receiving the Nobel Prize is unthinkable. The main reason for this research is that fact that just about 2,5% of Nobel Prize winners are Russians. This paper analyzed archive and literature documents about the activity of Alfred Nobel in Russia. In 1879 three Nobel Brothers (including Alfred) founded the "Nobel Brothers Association", abbreviated as Branobel, in Russia. Success touched Alfred Nobel's fut in Russian business and part of his profit was secured in Russian Central Bank as we know from Alfred Nobel's will. As a result of current research author tried to evaluate contribution of A. Nobel's Russian business in Nobel Foundation and Russian life. Consequently, it was revealed that A. Nobel's executor Sohlman R. stated that in the assets of the Nobel Prize the originally share of funds received from Branobel activities was about 12%.

Keywords: Nobel Prize, Branobel, Petroleum Company, imperial Russia, oil production, oil storage, oil trade, Alfred Nobel, Nobel's will.

1. Introduction

Nobel Prize is the most prestigious prize among scientists worldwide. Between 1901 and 2019, the Nobel Prizes and the Prize in Economic Sciences were awarded 597 times to 950 people and organizations [1]. Thereof, twenty-four Russians won Nobel Prizes: two in Physiology or Medicine, twelve in Physics, one in Chemistry, two in Economic Sciences, five in Literature, and two Peace Prizes [2]. So just about 2,5% of Nobel Prize winners are Russians. But full share of Russian money in Nobel Prize Fund is unknown yet and author tried to find some documents that have shed a great deal of light on this. Actually, there are not so many documents were found in International ABI/Inform (Proquest) data base related to history of Alfred Nobel's activity in Russia.

As we know from Russian literature sources [3, 5-7, 10, 11], Alfred Nobel's father, Emanuel, went bankrupt in Sweden. He was saved by the Russian ambassador, who knew that Emanuel was a risky inventor. In Russia, there was then more money than in Sweden, especially for the needs of the military-industrial complex. And in 1842 the whole Nobel family moved to St. Petersburg. So, Alfred Nobel grew up, since he was nine years old, received his education and was shaped as a human being in St. Petersburg, Russia. Unfortunately, we could not find enough archive documents during Alfred Nobel life in Russia but we hope to find these in Saint Petersburg Archive in the nearest future.

2. Data and Methodology

The current study uses data found in Russian State Archives and Libraries. The main method of this study is digital processing of archival materials and books. The author has been working with these data since January 2006. The main advantage of this research is to logical link archival and modern materials to create a comprehensible picture of the ways to form assets for the Nobel Prize/Nobel Foundation. The author does not pretend to the completeness of this picture, because in Russia there are very few original documents that testify to the activity of Branobel in connection with the general nationalization and expropriation after the October Revolution in 1917. As a result, due to the inability to continue their business, the main Branobel managers abandoned their assets (as well as the author's ancestors) and left Russia in 1921.

3. Activity of Alfred Nobel in Russia

Alfred Nobel was graduated by St Petersburg University (SPU). Being a student of the famous SPU professor Nikolai Zinin, Alfred Nobel was particularly keen on chemistry, involved in scientific research, especially in the field of explosives. Alfred decided to tame the dangerous substance, putting it in the service of people. Alfred Nobel continued his experiments and won. By mixing nitroglycerin with diatomaceous earth, a loose rock similar to peat, he made it safe. In 1867, dynamite was patented, the name of which comes from the Greek "δυναμιτης" that means strength.

After that almost all countries of the world, including Russia, pile Alfred Nobel up by orders. In a few years only in Europe was built 75 factories of dynamite, daily bringing its creator 40 thousand francs (about 300 thousand current dollars). His dynamite storages used to function in Russia also, e.g in Nizhniy Tagil [3, p.231].

In 1873 Robert Nobel (Alfred's native brother) went to the Caucasus in search of hard wood for rifle buttstocks. Once in Baku, he found himself in the middle of an "oil fever". "Black gold" has only recently been used for the production of kerosene, and thousands of people rushed with shovels to dig wells and pour the extracted oil into any containers. Oil puddles were seen everywhere, fires broke out and the city was covered with thick black smoke. Seeing this mess, Robert immediately understood the prospects of the oil business and bought one of the artisanal refineries. Alfred Nobel's business links with his brothers eventually extended his interests to the oilfields of Baku [4]. The business went on, and in 1879 the "Nobel Brothers Association", abbreviated as Branobel, was formed in Russia.

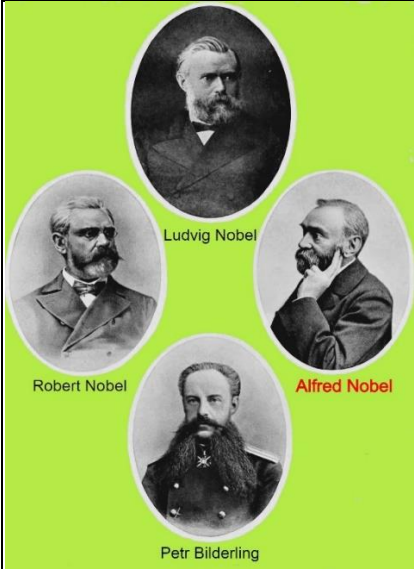
Branobel emerged in the difficult time for industrial life in Russia. On the one hand, the excitement caused in the commercial world by the first industrial crisis caused by the overproduction of oil in the mid-70s has not yet subsided, on the other hand, the rumble of cannons of war with Turkey has just been silenced in Transcaucasia and the Balkans and the country has not yet reached the balance. There was no free capital that could have been invested in the oil industry, and without it was difficult to compete with American kerosene and drive it out of the Russian market, especially since the population was overwhelmed by different taxes and therefore it was impossible to expect a rapid turnover of capital. Apart from Ludvig, the main Branobel's founders were his two brothers - Alfred and Robert, and Colonel of the Guards Artillery, Peter Alesandrovich Bilderling (friend of Ludvig Nobel). The Branobel's Charter was approved on May 18, 1879 in St. Petersburg and since that time its eventful life begins, interesting not only as a chronicle of the largest enterprise, but also as a reflection, even as a direction of the entire oil industry in Russia.

It is necessary to note a peculiar feature of the charter, characteristic for Ludvig Nobel. The shares were priced at 5000 rubles each. Such a large unit shows that the shares were issued not for the speculative market, but for business, as the market requires more mobile - small values. In addition, the charter provides for the distribution of profits, with the deduction of 8% of the fixed capital to the dividend shareholders and employees, in favor of whom 40% of this balance is allocated. The share of Alfred Nobel as one of Branobel's founders was about 4%. Peter Alexandrovich Bilderling was needed in the founding and further activities of the Partnership, among other things, and as a Russian citizen, which simplified the legal procedures [5, 6]. The main executive body of the Partnership - the Board - was organized in St. Petersburg and its practical director, together with Ludvig Nobel, was the late Mikhail Yakovlevich Belyamin, elected after the death of Ludvig (in 1888) to the post of the Board's Chairman.

At that time, three million rubles - a huge amount of money, given that Branobel bought kerosene for 1 ruble per poodle, and sold for 2 rubles per poodle [15, Circular of 10.01.1914 № 703/451, SAPK, F. 182, op.1, unit 1, page 210]. That is, for three million rubles could buy three million poods = 48 000 tons of kerosene and get a profit of three million rubles. That is, the authorized capital was fully paid off by selling three million poods (48,000 tons) of oil products. Taking into account

that thousands of poods of oil products (kerosene, fuel oil, oil) were delivered to the storages by sea from Baku to Astrakhan, further along the Volga and Kama, the authorized capital of Branobel paid off already for the third year of its operation, as in 1879 - 1881 only 6 738 thousand poods of oil products were loaded to Tsaritsyn's storage. The Branobel's founders and their shares in the authorized capital are given in Table 1 below.

Table 1. Founders of the Nobel Brothers Petroleum Company Ltd.

	Founder's name	Contribution to authorized capital, rub	Share in authorized capital, %
	Ludvig Nobel	1610000	53,7
	Alfred Nobel	115000	3,8
	Robert Nobel	100000	3,3
	Petr Bilderling	930000	31,0
	I. Zabelskiy	135000	4,5
	A. Bilderling	50000	1,7
	F. Blumberg	25000	0,8
	M. Belyamin	25000	0,8
	A. Sundgren	5000	0,2
	B. Wunderlikh	5000	0,2
	Total	3000000	100,0

Source: author's compilation from [5, 11].

In the strategic plan, the owners and shareholders of Branobel attached utmost importance to the Kama Region as a promising market for petroleum products. On the one hand, they took into account the fact that the region was still underdeveloped in this respect, and on the other hand, they took into account the specifics of the Urals region as a center of mining industry with significant economic and human resources. In 1880, for example, only in the Perm province was about 2,5 million residents (Calendar of the Perm province in 1883. Perm, 1883. Pg.44), there were dozens of large metallurgical plants, many manufacturing enterprises, which were potential consumers of Branobel. Its owners also hatched plans to use the Kama region as a stronghold for the promotion of business in the Trans-Urals and Siberia. Perm, or more precisely the area near the village of Levshino, 12,5 km from the provincial center (Perm city center) up the Kama, was eventually chosen by the partnership as a base for oil products supply to the Kama region, as well as to the Middle Urals and Western Siberia. In 1882 the oil storage facility created here appeared in the documents as Perm or Motovilikha storage [13-16].

They have been chosen a convenient place - near the village of Levshino, near Kama river and the railway. Oil products were delivered by barges and then sent by steam locomotives. Yes, in those years, oil was brought to Perm; the local one had not yet been found. From the Caspian Sea kerosene and fuel oil were delivered by oil-loading barges along the Volga and Kama to Perm, and from here - by the newly built Ural Mining Railway - to Western Siberia. By the way, the Nobel brothers were the first to use closed tanker barges, and they also own the idea to transport oil through pipelines.

Since 1883 the Perm Oil Storage Facility of the Branobel has been operating. The motives for the choice were quite simple. First, oil products could be delivered here by relatively cheap waterway. Secondly, in 1878 the Ural Mining and Processing

Railway was built, coming from Perm. From archive documents we can see Agreement between Branobel and Railway (Fig.1) and amount of payment for operating a railway line (Fig.2).

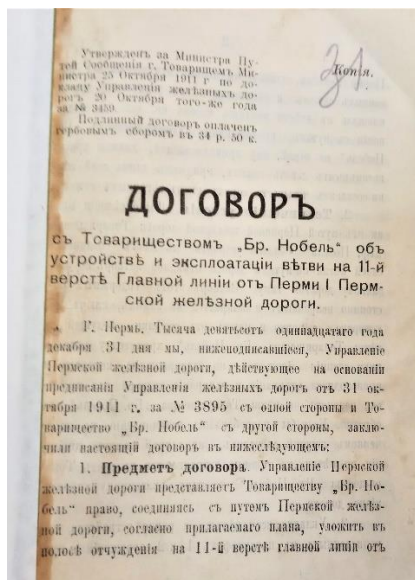


Fig. 1. Agreement between Russian Railway and Branobel

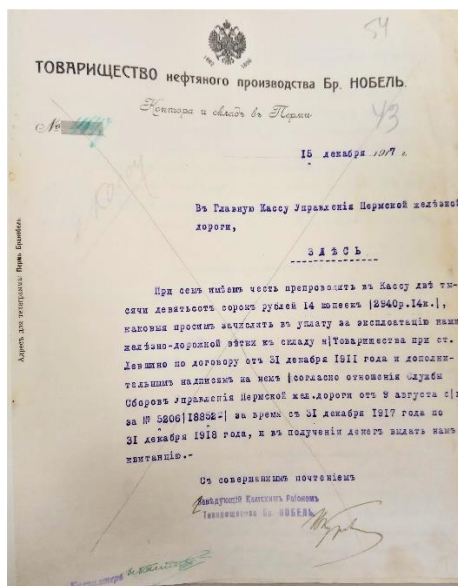


Fig. 2. Payment Receipt for railway line operating

Therefore, after pumping oil products from tanks in storages or from barges to wagons/tank cars, it was possible to transport them by rail all the way to Yekaterinburg, and after commissioning in 1888, the branches of Yekaterinburg-Tyumen - and to Western Siberia. In other words, the design of the Perm Oil Storage Facility provided that it should not only have regional significance, but also serve as the largest transshipment base for oil products, meeting the needs in kerosene, fuel oil, lubricating oils of the Middle Urals and West Siberian regions.

4. Nobel Prize assets

Branobel's main employee and loyal ally has always been the immortal science that underlies all his endeavors. Branobel sensitively listened to everything new that was given in the field of technology of extraction, processing and transportation of petroleum products, extracted everything that contributed to the cheapening of production, transportation and storage of goods and, without sparing victims, used in his practice, as if skeptical or even hostile-negative of the surrounding industrial world. At the same time, Branobel more often had to create the elements of progress in his own business than to apply in practice ready-made and proven inventions.

Everything that could have even a remote, though indirect, relation to the case and came out of the scientific spheres, was duly appreciated by Branobel and took its place in his mind. Therefore, from the very beginning, there were people of science in the service of Branobel; geologists, mining engineers, mechanical engineers, chemists, architects, and so on. And with them, of course, it is possible to introduce the most beneficial improvements in drilling and field operation techniques.

Branobel, having got acquainted with the method of delivery of raw materials, which existed in America at that time, with the help of pumps through pipes, decided to radically change the method of delivery in his own country, building pipelines and thus providing cheap, convenient and correct delivery of oil to plants. Believing that collective efforts in this direction will give better results, Branobel addressed all major Baku oil producers with a proposal to build an oil pipeline together. But in all his

undertakings, Branobel was destined to remain in the sole number and then to be a brilliant example to attract the surrounding immobility towards progress.

The Nobel's attitude toward the employees was unusually progressive at that time. Among the measures taken by Branobel was the reduction of working time from the usual 12-14 hours to 10,5-11 hours. In addition, humiliating personal searches of people who had worked in the shift were abolished. In addition, a significant part of the net profit was paid as bonuses to employees and skilled workers. Schools, hospitals, libraries were established for workers and employees, and residential buildings were built. In Baku, more than 90% of Nobel workers lived either in their own apartments or in well-equipped working settlements with large rooms, fountains and paved streets. Dwelling houses with central heating, bathtubs and other amenities were also built on the factory premises in St. Petersburg. Employees and engineers, as well as some members of the Nobel family, used to live in these houses. [6].

Since 1879, Branobel began transporting barrels of kerosene in steam ships. In 1880 the price of one pood of Russian kerosene per pood was 1 rub. 60 cop. and American - 1 rub. 26 kopecks. Ludvig Nobel solved the problem of cheapening the kerosene by switching to liquid kerosene transportation. We had to theoretically create something new both in type and design. Consistent with the shape of the hull of the ship, the holds of the latter should contain several iron tanks separated from the engine room by an impermeable bulkhead and representing one continuous system - a series of communicating, through pipes, vessels. Under the latter conditions, the uniform loading and unloading of kerosene is facilitated.

Ludvig had to solve in a positive sense the question of purchasing his own liquid fleet. Otherwise, it was impossible neither to compete with America, nor to spread cheap lighting oil on the domestic market.

A new tanker had to be ordered in Sweden at the Motala plant. In 1878, the liquid schooner, which was named "Zoroaster", by the name of the thinker-innovator, was ready. A steam pump was installed at Zoroaster to pump kerosene into barges at a 9-foot raid. From the raid, oil products were transported to Astrakhan, and most of them directly to Tsaritsyn, from where, as from the import center, they were distributed at the market by delivery in barrels and by rail and water up to Nizhny Novgorod. The way from Astrakhan to Tsaritsyn took 7,5 to 8 days. [11]

The oil products were then distributed to other Branobel storages in Russia. Data on such distribution for 30 years of Branobel's activity are given in Table 2.

Table 2. Oil products distribution among Branobel's oil storages, barrels

Storages	1879-1883	1884-1888	1889-1893	1894-1896	Total, bbl
Tsaritsyn	2935659	6277074	9051537	6782166	25 046 436
Saratov	292004	2112618	4305714	4502586	11 212 922
Butraki	0	1014148	1906977	1779413	4 700 539
Samara	0	0	658481	1306993	1 965 474
Kazan	0	859677	846705	939075	2 645 457
Nizhny Novgorod	0	2327867	3853714	3508377	9 689 959
Yaroslavl	0	0	35074	638302	673 376
Rybinsk	0	0	0	1516717	1 516 717
Purefoot	0	0	47566	328160	375 726
Sarapul	0	19339	0	0	19 339
Perm	0	136453	387497	611275	1 135 226
in total, bbl	3227664	12747176	21093266	21913064	58 981 171

Source: Author's compilation from [11].

This distribution is graphically shown below (Fig.1).

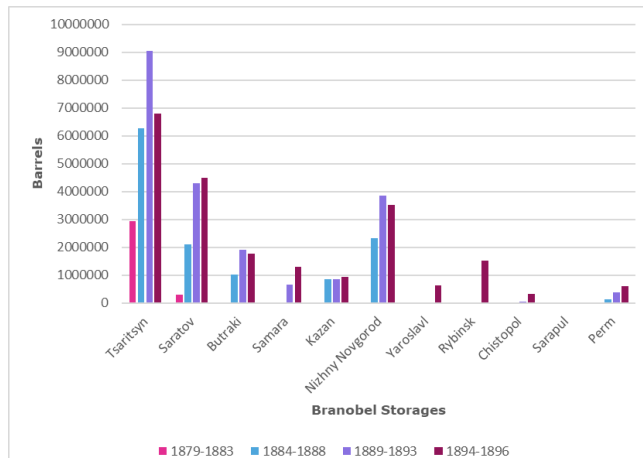


Fig. 3. Oil products distribution among Branobel's oil storages, barrels.
Source: Author's compilation from [11].

The data in Table 2 and Fig.3 show that during A. Nobel's lifetime, Branobel transported more than 57 million barrels of oil products. If we had assumed that all these oil products were sold, the revenue for them would have been about 786 million rubles. Given that A. Nobel's share in Branobel was 3,8%, his share of revenue would have been about 30 million rubles in 19th century price. Unfortunately, we have not found documents confirming the distribution of dividends among the founders yet, but this is a possible topic for future studies.

To confirm Branobel activity in Russia, on Fig.4 we can see Branobel letterhead in a pick of their activity. Branobel received the privilege of using the Russian double-headed eagle in his business correspondence after the Russian Emperor visited the Branobel's pavilion at the Nizhny Novgorod exhibition in 1896 [6]. Fig.5 shows the final of Branobel's activity.

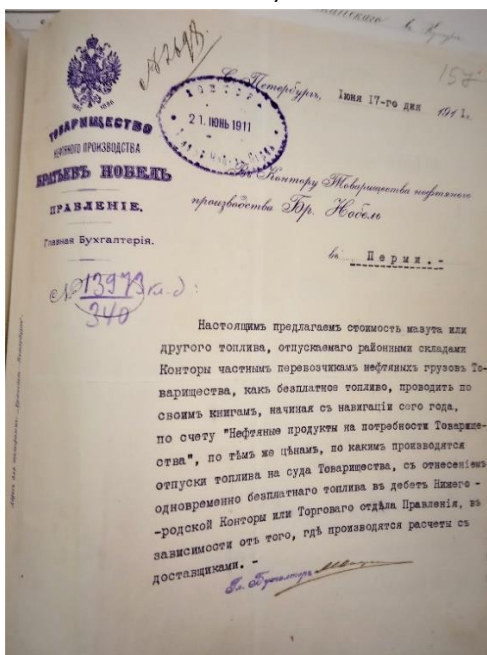


Fig. 4. Letterhead of Branobel
Source [17].

Вид имущества	Количество	Цена	Сумма
Земельные участки	1000-10	400	400000
Здания	10-11	10000	110000
Сараи	10-17	400	6800
Складские помещения	45-100	1000	45000
Сумма			467800

Fig. 5. Primary document of Branobel assets' Nationalization
Source [15].

Fig. 5 shows some results of Branobel nationalization, e.g. about 2305 barrels (19187,18 poods) of kerosene was poured into the river in Perm. Similarly, the leftovers of oil products from many other storages were taken out by the heads of these storages before nationalization, some kerosene was poured into the river and some of them were stolen. In Perm, the main assets of Branobel were given to the created Kamskaya oil depot, which is now part of the Perm branch of Lukoil.

According to the data of the closest associate of A. Nobel, Sohlman R. (Nobel's executor), in the capital of the Nobel Prize share of funds received from the Branobel activities is above 10%. [10]

5. Branobel's Memorials

The property of the Branobel branch in Perm, which was nationalized in 1918, passed under the control of the Perm District Committee of Glavkoneft of the RSFSR's. During the Soviet Union period, the Kama oil depot was based on Branobel assets and established at that location. The oil tank, built by Branobel in 1903 with the volume of 987.5 poods (15.8 tons) and now installed in Perm as a monument, has survived here by some miracle (Fig. 6). Another Perm "monument" to Branobel is the old office building on Torgovaya (Sovetskaya/Petropavlovskaya) street with the new memorial plaque, opened in 2003 (Fig.7).



Fig. 6. Oil reservoir, built by Branobel in 1903 with the volume of 119 bbl



Fig. 7. Memorial plaque to the Nobel brothers on the past building of Branobel's Perm Branch.

Wealth has not brought Alfred happiness: he never started a family, lived alone, suffered from depression. But he invented the Nobel Prize, which began in 1901 - five years after Alfred Nobel died when he was just 63 years old in the Italian resort of San Remo at 10.12.1896. Grateful descendants will always remember and honor Alfred Nobel as creator of the Nobel Prize, awarded to outstanding scientists.

Most of Alfred Nobel's fortune was bequeathed by him to a fund of international prizes - Nobel Prizes. The event that pushed him to this decision is considered to be the erroneous publication of the Ludvig Nobel obituary in 1888 in one of the French newspapers with condemnation of his invention of dynamite. Journalists just mixed up Ludvig with Alfred.

When Alfred Nobel wrote his will seven years later, he probably had no idea what it would lead to. Fabulously wealthy from his invention of dynamite, Nobel bequeathed the majority of his estate to create five prizes to honor achievements that have "conferred the greatest benefit on mankind" in chemistry, physics, physiology or medicine, literature and the promotion of peace. The prizes' value was unprecedented. When they were first awarded in 1901, five years after Nobel's death, the value of each represented about 30 times the salary of a university professor [18].

Alfred Nobel flaunted inconsistencies. The King of Dynamite, the inventor of smokeless powder and the mastermind of the Swedish munitions industry, he

supported peace movements; as engineer, applied chemist and aggressive capitalist, he wrote, and established a prize for scientists. With a good head for business but a weak stomach for delegation, he ran his enterprises by correspondence without an office of a secretary. Nobel insisted that he was frail, but worked for 18 hours a day; he went into society, and acted the misanthrope; he prided himself on his rationality, and took elaborate precautions against being buried alive [19].

The Swedish branch of the Nobel family opposed Alfred Nobel's will more than anybody, wishing to dispose of the inheritance estimated at 35 million kroons in a completely different way. In addition, the Swedish Academy, which was to choose the winners, did not immediately realize the cosmopolitan idea of Nobel, that the awards should be awarded without regard to nationality. At the beginning of the century, Sweden was a poor country, and many believed that Nobel's money could be more usefully used there.

As for the Russian roots of the Nobel Prize, according to Alfred Nobel's will: "My assets currently consist ... partly of securities deposited ... with the Russian Central Bank, and with Mr Emmanuel Nobel in Petersburg" [12]. Emmanuel Nobel, Alfred's nephew, was Branobel's head in Russia at 27.11.1896 - the moment of Alfred Nobel's will. Emmanuel Nobel, was loyal to his uncle Alfred and played a very significant role in the realization of his will with the support of the executor of this will, mainly Ragnar Sohlman. So, thanks to them, we still have the Nobel Prize as an important component of worldwide scientific, cultural, social life.

6. Conclusion

As a result of this study it was found that the founder of the Nobel Prize participated in the creation and operation of Branobel in Russia. This company had a great commercial success, and science was the basis of all corporate undertakings. Many scientific achievements were used and implemented in Branobel's activity. The management of Branobel listened attentively to everything new that was given in the field of techniques of petroleum products' extraction, processing and transportation, extracted everything that contributed to the cheapening of production, transportation and storage of goods and, without sparing victims, applied in its practice, as if skeptical or even hostile-negative of the industrial world around it. At the same time, Branobel had to create elements of progress in its own business more often than to apply in practice ready-made and proven inventions.

Thus, for the first time Branobel developed and built oil pipelines, oil loading vessels for oil delivery and transportation. Also, for the first time in oil development, network electricity was used for equipment operation. These achievements are still used in the oil industry. Besides, great importance was also attached to social security of Branobel's personnel. Hospitals, living houses, sanatoriums for employees were built. For the first time in Russia Branobel used the so-called "full social package", which is still used today, in large prestigious Russian companies. In other words, Branobel conducted "business with a human face".

Dividends received by Branobel's founder Alfred Nobel were deposited with the Russian Central Bank and formed part of the Nobel Fund assets to create the Nobel Prize. According to the statement of the Nobel Fund's first managers, Sohlman R., the share of funds received from the activities of Branobel in the capital of the Nobel Prize was about 12% [7,10].

It was also found out that there were dynamite storages in Russia selling dynamite patented as an invention by Alfred Nobel. The profits from the activity of these storages could also be put into assets of the Nobel Fund.

For future research work on this topic, author plans to study in more detail the materials stored in the State Historical Archive in St. Petersburg, as it should be there that the full picture of Alfred Nobel's activities in Russia.

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