



face value	10 zł
metal	925/1000 Ag
finish	proof
diameter	32.00 mm
weight	14.14 g
mintage	43 000 pcs

Obverse: On the bottom left-hand side, an image of the Eagle as the national emblem of the Republic of Poland. On the right-hand side, view of a road, with a panorama of a city above, and the outlines of aeroplanes and a helicopter over it. Semi-circumscription above: RZECZPOSPOLITA POLSKA. Year of issue: 2003, inscribed to the lower right-hand side of the municipal panorama. The inscription: 10 ZŁ below, against the background of the road. Under the Eagle's left talon, the Mint mark: $\frac{m}{w}$.

Reverse: On the right-hand side, a portrait of Ignacy Łukasiewicz. A paraffin lamp in the centre. On the left-hand side, a stylised design showing oil drilling and refinery installations. Semi-circumscription: 150-LECIE NARODZIN PRZEMYSŁU NAFTOWEGO I GAZOWNICZEGO (150th Anniversary of the Birth of the Oil and Natural Gas Industry) above. Below, the date on which the first paraffin lamps were lit up in the hospital at Lwów: 31•VII•1853.

Coin Designer: Roussanka Nowakowska



face value	2 zł
metal	CuAl5Zn5Sn1 alloy
finish	standard
diameter	27.00 mm
weight	8.15 g
mintage	600 000 pcs

Obverse: An image of the Eagle, as the national emblem of the Republic of Poland; on both sides of the Eagle the notation of the year of issue: 20-03; under the Eagle an inscription: ZŁ 2 ZŁ, and a circumscription: RZECZPOSPOLITA POLSKA preceded and followed by six pearls. Under the Eagle's left talon, the Mint mark: $\frac{m}{w}$.

Reverse: A portrait of Ignacy Łukasiewicz holding a paraffin lamp, with a stylised design showing oil drilling and refinery installations in the background. Below, the date on which the first paraffin lamps were lit up in the hospital at Lwów: 31•VII•1853.

On the edge: an inscription: NBP eight times repeated, every second one turned by 180°, separated by stars.

Obverse designer: Ewa Tyc-Karpińska
Reverse designer: Roussanka Nowakowska

Coins struck by the State Mint in Warsaw.

Printed by NBP Printing Office

Collector's Coins



On 21st May 2003 the National Bank of Poland is putting into circulation collector's coins to mark the 150th anniversary of the birth of the oil and natural gas industry, of the following face values:

- 200 zł – struck in gold, in proof finish,
- 10 zł – struck in silver, in proof finish,
- 2 zł – struck in standard finish, in CuAl5Zn5Sn1 alloy, the so-called Nordic Gold

There have been many notable achievements in Polish history accomplished by famous people. One of these personalities is Ignacy Łukasiewicz, an inventor and an industrialist, a Polish patriot who contributed to the secret movement for the restoration of his country's independence, a social campaigner and a philanthropist. The year 2000 marked the 180th anniversary of his birth, and the 120th anniversary of his death.

The following two events involving Ignacy Łukasiewicz were of crucial importance in the global career of petroleum oil:

- At the turn of 1852 and 1853 Łukasiewicz and his colleague Jan Zeh obtained a distillate of the appropriate degree of purity from natural petroleum oil. On 2nd December they were granted a patent for it by the Austrian Patent Office in Vienna, for "a discovery concerning natural mineral oil chemically purified to a degree permitting its technical application."

Assisted by Adam Bratkowski, a metalworker, Łukasiewicz constructed an oil lamp for his distillate, which gave a bright light with no smoke.

Łukasiewicz's use of the paraffin oil obtained in his arduous experiments in the lamp he had constructed was a revolution in mid-19th-century illumination technology. At the same time it pointed the way to further research for the application of the products obtained from the distillation of natural petroleum oil. But the invention would probably have just been a scientific curiosity if it were not for Łukasiewicz's determination to make the practical application of paraffin oil a reality.

Many researchers had worked on the distillation of petroleum oil before Łukasiewicz, but none of them had managed to put their results to practical, general use, although Josef Hecker had come close to success. The final success was to rest with Łukasiewicz, who proved indefatigable in his endeavours to dispel the mistrust of the Austrian authorities and persuade the public, which was diffident at first, of the advantages of the new discovery. He knew exactly how important his invention was, and was fully aware of its value when he said, "Mineral oil is the future wealth of a country, the prosperity and well-being of its people, a new source of income for a poor population, and a new branch of industry which will bring many benefits." He put in a huge effort to apply his discovery practically, assisted in this by many friends.

On July 31st 1853 paraffin lamps were first used to illuminate the operating theatre of the General Hospital in Lwów, where Dr. Zaorski conducted a complicated operation, saving a patient's life. This was an important point in the history of civilisation, marking the start of the "oil fever." Twenty-five years later oil producers would declare that day the birth of the oil industry.

In 1854 the growing demand for the new kind of lighting made Łukasiewicz and Trzeciecki set up a natural petroleum oil well at Bóbrka near Krosno – the first of its kind in Poland and one of the earliest in the world – followed in 1856 by the world's first oil refinery at Ulaszowice near Jasło. The ever increasing demand for paraffin intensified the prospecting for new sources of oil, and the successful strikes led to the establishment of one of the world's first oil companies, set up to prospect and drill for oil on the Bóbrka field. Karol Klobassa, the owner of the land, Tytus Trzeciecki who put up the capital, and Ignacy Łukasiewicz who supplied the technological know-how and experience, were the partners. Soon there were other companies prospecting for oil in other areas as well, while Łukasiewicz was building his next, more advanced distilling plants, at Klęczany (1858, for the Zieliński Brothers), Polanka (1861, with Trzeciecki), and his own at Chorkówka in 1865.

News of the discovery made by a humble Polish apothecary attracted the attention of George Bissell, creator of the American oil industry, and John D. Rockefeller, founder of the American Standard Oil Company, who sent specialists to learn the secrets of the distillation process Łukasiewicz was using in his refinery at Polanka near Krosno. An intensive search for oil was going on in many parts of the world. The new industry was drawing in many people: it provided jobs and an income for the poor, an opportunity to make money for the rich, and later wealth and prosperity to individuals and whole nations.

The escalating volume of oil extracted in Poland called for the development of new drilling and extraction techniques, and the advancement of processing technologies. When Łukasiewicz was starting his drilling work in the area of Jasło, a total of just 16 metric tonnes of oil was being extracted annually. By 1909 oil production in Galicia (the south-eastern part of Poland, then under Austrian rule) had shot up to its peak value of 2,075 million m. tonnes per annum, which made

the region the world's third biggest oil producer. There were a total of 340 registered oil companies throughout Galicia, with drilling sites in 75 places. In the pioneering days of feverish growth, in some places there were as many as several dozen distilling works. There were over 100 large oil refineries in Galicia and in Poland in the 1920's and 30's, some of which are still working today.

The growing oil industry was in urgent need of trained personnel and solutions to many scientific and technical problems. As a result of many years of effort, in 1885 a vocational school training future oilmen was founded in Ropianka, and later amalgamated with the school at Borysław, and finally in 1908 transformed into a college known as the "National Mining and Drilling College". From 1892 onwards lectures in oil extraction and the chemical technology for petroleum oil and paraffin wax were conducted in the Polytechnic in Lwów, and in 1919 after the restoration of Poland's independence courses for the diploma in engineering for the oil industry were held in the newly founded Academy of Mining in Cracow.

In 1912 the natural gas which occurs in petroleum oil deposits started out on its industrial career, when Marian Wieleżyński and Władysław Szaynok laid the first gas line (700 m) in Galicia at Borysław, followed two years later by the first network of gas pipes in Europe, on the same site.

The Polish oil industry sustained a devastating amount of damage during the Second World War, while Western oil businesses were rapidly expanding at the time. The industry's post-war restoration was an arduous task, but the efforts of geologists, geophysicists, drilling specialists, and oil producers led to the discovery of new oilfields in the Carpathians and in the Sub-Carpathian Depression, and later on the Polish Lowlands and in the Baltic coastal region. New prospecting companies were founded at Jasło, Cracow, Piła, Wołomin, and Zielona Góra, geophysical companies in Cracow and Toruń, and extraction companies at Krosno, Sanok, and Zielona Góra. In the 150 years of the Polish oil extracting industry 106 oilfields and 187 deposits of natural gas have been discovered, the overwhelming majority of them after the Second World War.

In the post-war period the refineries at Czechowice, Gorlice, Jasło, Jedlicz, and Trzebinia were rebuilt and modernised. In the 1960's a petrochemical refinery was set up in Płock, which thanks to a process of redevelopment and systematic modernisation is one of the largest and most advanced plants of its kind in the world. In the 1970's another modern refinery was opened in Gdańsk.

The oil industry was the biggest branch of industry to emerge in the 19th century. It came to dominate and transform 20th-century civilisation, changing international economic and political relations. As we embark on the celebrations to commemorate the 150th anniversary of the beginnings of the oil industry, the Scientific and Technical Association for the Oil and Natural Gas Industry, the National Council of the NOT (Polish Federation of Engineering Associations), and the Senate of the Republic of Poland, which have passed resolutions to

honour Ignacy Łukasiewicz for his outstanding achievements as the pioneer of the world's oil industry, are meeting the challenge of his legacy, expressed at his graveside by August Korczak-Gorayski: "There were many who were wiser and more renowned than Łukasiewicz, but hardly any more virtuous ... This simple man holds the merit for the great invention of paraffin oil lighting. We shall not allow this distinction to be snatched away from us - it is our national duty to see to this, since we may be sure that there will be attempts to deny us this honour. It is our national duty to pay an enduring tribute to the inventor and pass on his reputation down to the next generations."

Dr Stanisław Szafran

The Stanisław Staszic University of Mining and Metallurgy, Cracow

All collector's coins are legal tender in Poland.



face value	200 zł
metal	900/1000Au
finish	proof
diameter	27.00 mm
weight	15.5 g
mintage	2 100 pcs

Obverse: On the bottom right-hand side, an image of the Eagle as the national emblem of the Republic of Poland. On the top right-hand side and in centre, a stylised design showing oil drilling and refinery installations and a hand holding a beacon. On the left-hand side, an inscription: 150-LECIE / NARODZIN / PRZEMYSŁU / NAFTOWEGO / I GAZOWNICZEGO (150th Anniversary of the Birth of the Oil and Natural Gas Industry), and an inscription: 200 ZŁ. Below, the year of issue: 2003. Above, a semi-circumscription: RZECZPOSPOLITA POLSKA. Under the Eagle's left talon, the Mint mark: $\frac{m}{m}$.

Reverse: On the left-hand side, a portrait of Ignacy Łukasiewicz. On the right-hand side, a paraffin lamp and two glass items of laboratory equipment. Above, the date on which the first paraffin lamps were lit up in the hospital at Lwów: 31•VII•1853. Below, a semi-circumscription: IGNACY ŁUKASIEWICZ 1822-1882.

Coin Designer: *Roussanka Nowakowska*