UFIMTSEV ANATOLY GEORGIEVICH
(1880–1936)

Sergey Jatsun

Kursk State Technical University, Theoretical Mechanics Department,
50 let Octyabrya St., 94, r.218, 305040 Kursk, Russia
E-mail: jatsun@kursknet.ru

Abstract. This paper presents a description of some inventions of a talented Russian scientist-inventor who one hundred years ago suggested new ideas for the development of motors for airplanes, construction of electrical power stations and more than twenty different technological inventions. In particular, Ufimtsev offered an interesting idea for use of an inertia accumulator, which led to the realization of a wind-powered electrical power station.

Biographical Notes

Anatoly Georgievich Ufimtsev was born on the 24th of November, 1880 in Kursk, in the family of a land surveyor; he was a grandson of F. A. Semyonov (an eminent self-educated scientist, meteorologist-astronomer, mechanic, honored citizen of Kursk, and a corresponding member of the Russian Geographical Society). Since childhood he had exhibited the ability to devise and manufacture various hand-made articles that he had studied in elementary school. At 16 years of age he designed and built an “electro-copying pen” for plural copying and a high-speed typewriter.

Having entered into the struggle against the church, in 1898 Ufimtsev invented a bomb with a clock mechanism and blew up a “miraculous ikon” in Znamensky Cathedral in Kursk. After the explosion Ufimtsev was not found immediately, but in two years after this business he was arrested and banished for five years to Akmolinsk (Kazakhstan).

The famous Russian writer Maksim Gorky (1868–1936) became interested in the history of the icon explosion, found the inventor and provided him with material aid. On Gorky’s money, Anatoly Ufimtsev equipped, within the prison of Akmolinsk, a small workshop to repair home appliances. In this
workshop he started to make and sell kerosene lamps and oil lanterns with use of his original ideas in design.

Having returned after amnesty in 1906 to Kursk, he constructed and equipped, in his own manor on Semenovskaya Street in the centre of Kursk, a workshop for repair of sewing machines and bicycles, and also continued to work with kerosene lanterns. Lanterns of Ufimtsev’s design were eventually installed, and were used for many years, in the streets of Kursk, Sevastopol and other cities of Russia.

In 1909 Ufimtsev became interested in the design of flying machines. He constructed an unusual flying machine with a wing in the form of a spherical surface with a large radius; his UFO (Unknown Flying Object) was called a “sphereplane”. His sphereplane had an adaptation for ejection catapults, using compressed air, such as we now find in modern sea-aircraft. A three-wheeled chassis flying machine with tail wheel was built by Anatoly Ufimtsev for the first time in Russia at the same time as one was built by the American aircraft designer Curtis.

In the same year Ufimtsev created a double rotation aviation engine for the sphereplane. In 1910–1911 he had already constructed two new four-and six-cylinder birotational (double rotation) engines. Propellers rotated on opposite sides of coaxial shafts, one of which was hollow. In 1912 at the Second